Exhibit H
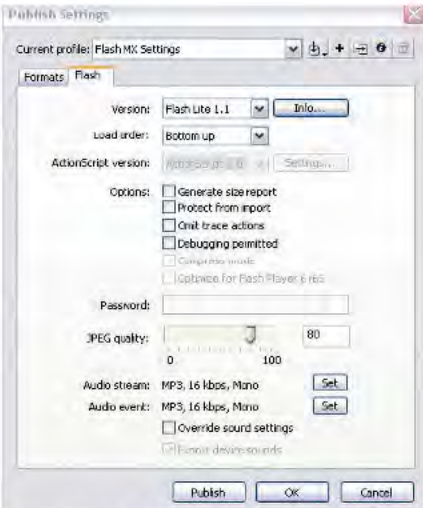
(JPMC Exhibit 7)

(Part 2 of 2)

Wapp Tech Limited Partnership et al. v. JPMorgan Chase Bank, N.A., No. 4:23-cv-1137 (E.D. Tex.)

'579 Claim 15	Reference/Combination
	For basic information on how to use Flash MX Professional 2004 to author and preview Flash Lite movies created for playing on phones, please refer to the Macromedia Flash MX Professional 2004 User Guide for Flash Lite . [¶] You should use the following to test your Flash Lite movie for i-mode phones: • The test movie Flash Lite Player (invoked during the Test Movie process) • The stand-alone Flash Lite simulator • The i-mode HTML Simulator from DoCoMo • Flash Lite on the manufacturer's i-mode phone To the extent this limitation is not explicitly disclosed by the Flash MX Professional 2004 system, it is inherent or would have been obvious to a POSA from the teachings of the Flash MX Professional 2004 system, the knowledge of a POSA, and/or one or more of the references identified in JPMC's Invalidity Contentions.

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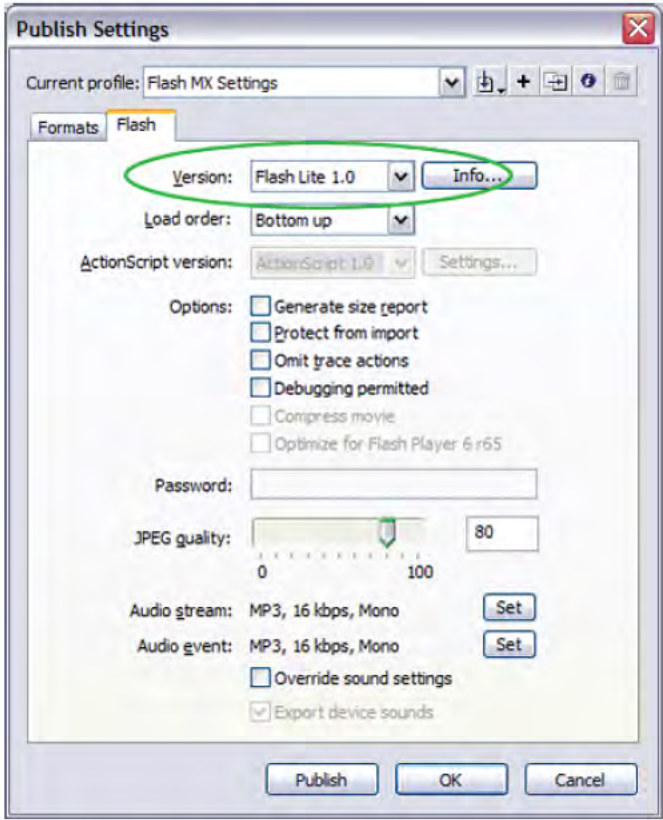| '579 Claim 16	Reference/Combination
16[a] The medium of claim 15, wherein the instructions initiate loading of at least one of the one or more characteristics from at least one of a remote server and a computer-readable media, wherein the physical mobile device is connected to at least one of the internet, a wireless network and the remote server, to enable a user to interact with and test the application.	The Flash MX Professional 2004 system discloses this limitation. Screenshot of Flash MX Professional 2004 selecting Flash Player version from computer-readable media. For example, Flash MX Professional 2004 initiates loading of at least one of the one or more characteristics from at least one of a remote server and a computer-readable media. For example, Flash MX Professional 2004 selects a Flash Player version. A mobile device may support one or more versions of Flash Player, so a Flash Player version is a characteristic associated with a mobile device. This characteristic is loaded from file (from a remote server and/or a computer-readable media).

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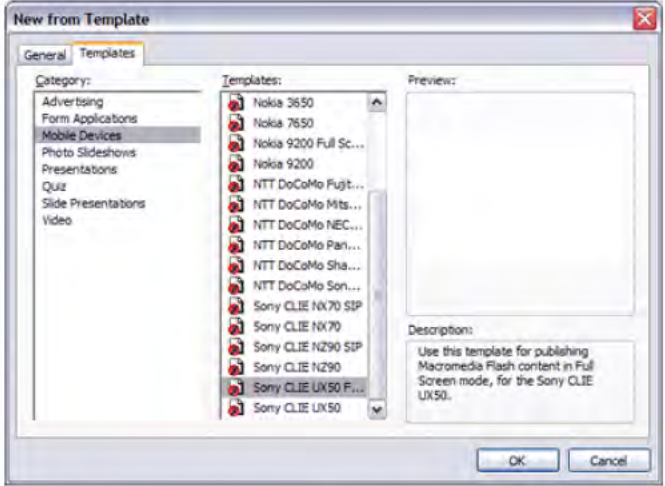| '579 Claim 16	Reference/Combination
	[*Flash MX 2004 Using Flash*, p. 282] Click the Flash tab and select a Player version from the Version pop-up menu. Not all Macromedia Flash MX 2004 and Macromedia Flash MX Professional 2004 features work in published SWF files that target Flash Player versions earlier than Flash Player 7. If you want to specific Flash Player detection, on the HTML tab of the Publish Settings dialog box, you must select Flash Player 4 or a later version. For more information about Flash Player detection, see "Configuring publish settings for Flash Player detection" on page 287. [*Flash MX 2004 Using Flash*, p. 287] You can configure your document to detect your users' Flash Player version. If you've selected Detect Flash Version in the Publish Settings dialog box, users who access your Flash application are transparently directed to an HTML file that contains a SWF file designed to detect their Flash Player version. If they have the specified version or later, the SWF file again redirects the user to your content HTML file, and your SWF file plays as designed. If users don't have the specified version, they're redirected to an alternate HTML file that Flash creates, or that you've created. [Perry] New Features for Mobile and Devices Developers [¶] Both products offer the new mobile devices templates, however, only Macromedia Flash MX Professional 2004 provides functionality specific to mobile device development: Mobile devices templates MIDI ring tone support Test device emulators Alias text support [¶] In the following section, I'll give you a little more information about these new features and what they mean to you. [¶] Authoring Content for Devices [¶] Exporting Content for Various Versions of Macromedia Flash Player [¶] When authoring for mobile devices, you need to use the correct Macromedia Flash publish settings based on the Macromedia Flash Player requirements of your target device. For more information on some of the

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'579 Claim 16	Reference/Combination
	devices that play Macromedia Flash content, refer to the Mobile and Devices Developer Center for a list of devices and content development kits for each. [¶] To customize your Macromedia Flash publish settings, you can select an option from the Flash tab of the Publish Settings window. You can access this window in three different ways: Select File > Publish Settings. Press the Settings button on the Property inspector with the Stage selected. Use a keyboard shortcut: Control-Shift-F12. [¶]

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'579 Claim 16	Reference/Combination
	Figure 2. Macromedia Flash publish settings. [¶]

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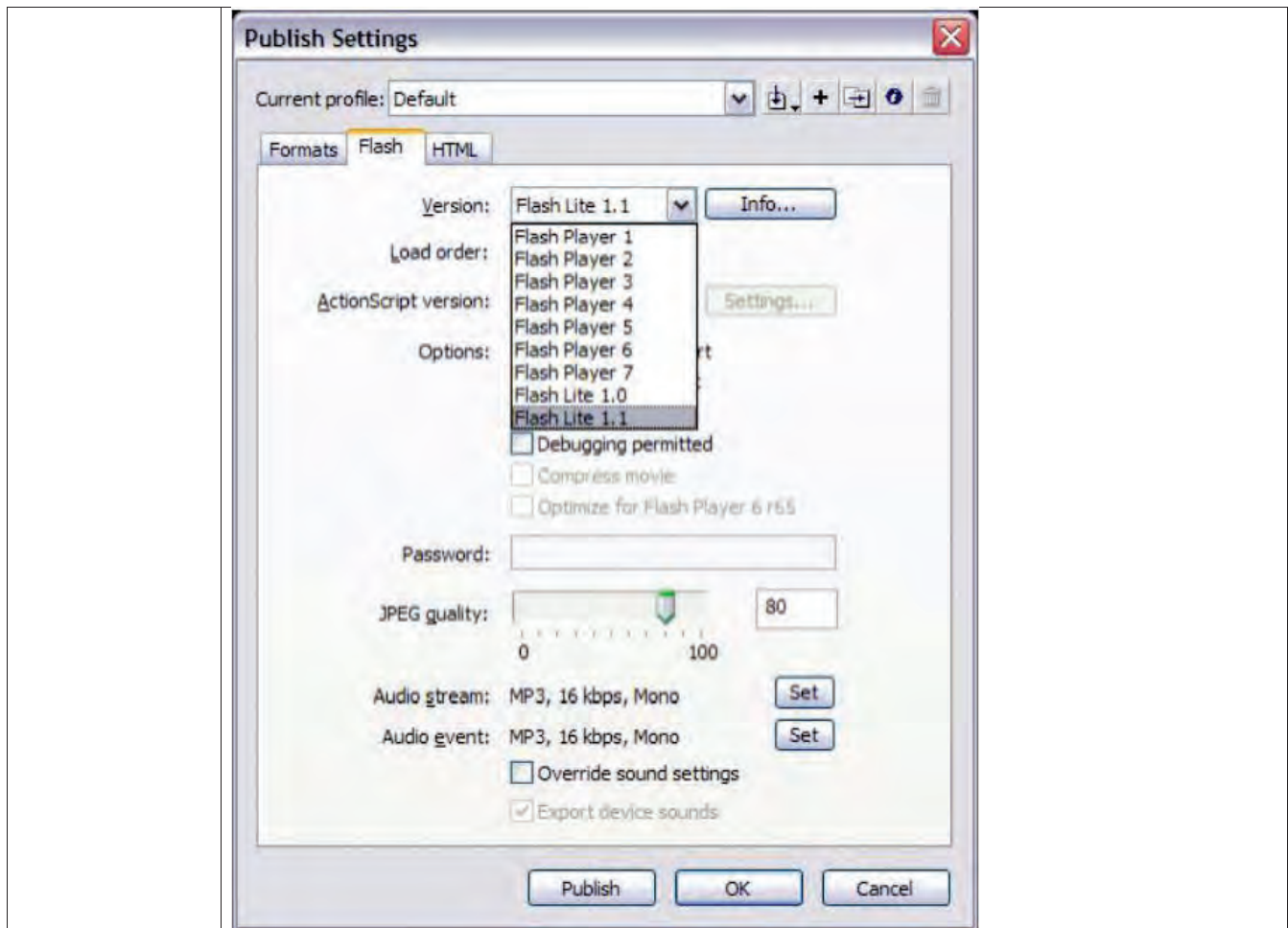| '579 Claim 16	Reference/Combination
	If you're using the built-in templates for devices, then Flash presets the Flash Player publish settings for each device. However, if you're not using the templates, then you'll need to be ensure that you customize the settings for your device. [¶] The only setting you need to change is the Version setting. Select the proper version of Macromedia Flash Player in the pop-up menu. The rest of the settings are optional and you can refer to the Flash MX Professional 2004 Help panel for additional information on them. […] Device Templates [¶] New to Macromedia Flash MX Professional 2004 and Macromedia Flash MX 2004 are 22 templates you can use to create content for all of the currently supported mobile devices. You can access them from the Flash start page or by selecting File > New. Click the Template tab in the New from Template dialog box (Figure 6) and select Mobile Devices in the Category pane. [¶] Figure 6. Mobile Devices templates. [¶]

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'579 Claim 16	Reference/Combination
	These templates take the guess work out of developing Macromedia Flash content for specific platforms. They set the correct stage size, load a full-size image of the specific device in a guide layer, and preset the correct Flash publishing settings. All you need to do is to create the content based on the development kit recommendations for each platform. You can find content development kits for each platform in the Macromedia Mobile and Devices Developer Center. [¶] For example, if you open up the iPAQ 5440 Full Screen template, here's what you will see: [¶] Figure 7. iPAQ 5440 Full Screen template opened in the authoring environment. [¶] Be sure to use these templates when creating content for mobile devices—they'll definitely save you time. [*Flash MX Professional 2004 Flash Lite 1.1 Authoring Guidelines*, p. 24]

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Wapp Tech Limited Partnership et al. v. JPMorgan Chase Bank, N.A., No. 4:23-cv-1137 (E.D. Tex.)

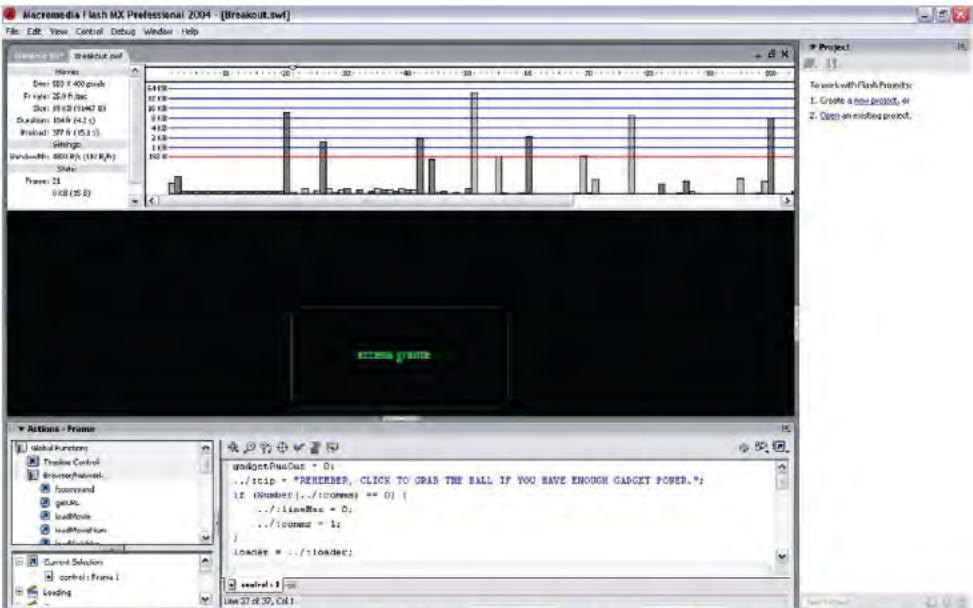| '579 Claim 16	Reference/Combination
	For example, Flash MX Professional 2004 loads Flash Player characteristics, such as Flash Lite 1.1, from file (from a remote server and/or a computer-readable media). [*Flash MX Professional 2004 Flash Lite 1.1 Authoring Guidelines*, p. 7] To create content for mobile phones, you must have the following items on your computer: • The latest version of Macromedia Flash MX Professional 2004 (7.0.1) • The new FlashLite1_1.dll (FlashLite1_1.dmg on the Mac) file for testing Flash applications in the Flash Lite 1.1 authoring environment • The new FlashLite1_1.xml file for publishing Flash Lite 1.1 SWF files • The DevicesMsg.cfg configuration file for customizing the features that are supported in Flash Lite 1.1. For example, Flash MX Professional 2004 selects a frame rate and stage size (screen size), both characteristics associated with a mobile device. These characteristics are loaded from file (on a remote server and/or computer-readable media). [*Flash MX 2004 Using Flash*, p. 10] 2. For Frame Rate, enter the number of animation frames to be displayed every second. For most computer-displayed animations, especially those playing from a website, 8 fps (frames per second) to 12 fps is sufficient (12 fps is the default frame rate). [¶] 3. For Dimensions, do one of the following: [¶] ■ To specify the Stage size in pixels, enter values in the Width and Height text boxes. The default document size is 550 x 400 pixels. The minimum size is 1 x 1 pixels; the maximum is 2880 x 2880 pixels. For example, Flash MX Professional 2004 is software. See disclosures for claim limitation 15[a] (hereby incorporated by reference). In software, characteristics are loaded from at least one of a remote server and a computer-readable media.

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'579 Claim 16	Reference/Combination
	In addition, for example, Flash MX Professional 2004 discloses an actual mobile phone (physical mobile device), such as a 505i phone, with a web browser connected to the internet, a wireless network, and/or the remote server, enabling a user to interact with and test the application. [Flash MX Professional 2004 Flash Lite 1.1 Authoring Guidelines, p. 49] Select File > Publish to save the SWF file as FlashLiteTest.swf. [¶] In the mobile phone web browser or from a desktop that can transfer a file using desktop-to-phone synchronization software, transfer the file to the mobile phone and verify that it works correctly. [Flash MX Professional 2004 Flash Lite 1.1 Authoring Guidelines, p. 51] Test your Macromedia Flash Lite 1.1 SWF content frequently on actual mobile phones. This step may seem obvious, but it is often overlooked. It is especially important when you develop Flash Lite 1.1 SWF files for mobile phones. No matter how much phone emulation you do, the final delivery remains the most important part of the development cycle. Emulation is helpful for much of the testing, but it is no substitute for testing on actual mobile phones. [Flash MX Professional 2004 Flash Lite Authoring Guidelines for the i-mode Service by NTT DoCoMo, p. 21] Test your Flash Lite movies frequently on actual 505i phones. This advice may sound obvious, but this step is often overlooked and is especially important for developing Flash Lite movies for i-mode phones. No matter how much phone emulation a developer does, the final delivery remains the most important step in the development cycle. Emulation is helpful for much of the testing, but it is no substitute for testing on actual 505i phones. [¶] For basic information on how to use Flash MX Professional 2004 to author and preview Flash Lite movies created for playing on phones, please refer to the Macromedia Flash MX Professional 2004 User Guide for Flash Lite . [¶] You should use the following to test your Flash Lite movie for i-mode phones: • The test movie Flash Lite Player (invoked during the Test Movie process) • The stand-alone Flash Lite simulator

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'579 Claim 16	Reference/Combination
	• The i-mode HTML Simulator from DoCoMo • Flash Lite on the manufacturer's i-mode phone To the extent this limitation is not explicitly disclosed by the Flash MX Professional 2004 system, it is inherent or would have been obvious to a POSA from the teachings of the Flash MX Professional 2004 system, the knowledge of a POSA, and/or one or more of the references identified in JPMC's Invalidity Contentions.

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'579 Claim 17	Reference/Combination
17[a] The medium of claim 15, wherein the software instructions include identifying one or more areas of code, or functions, or both of the application responsible for utilization of a specific displayed resource at a given time.	The Flash MX Professional 2004 system discloses this limitation. Screenshot of Flash MX Professional 2004 interface with "Actions – Frame" window showing the state of the Flash application at frame 21, including an ActionScript script, and indicating the use of bandwidth per frame of the application.

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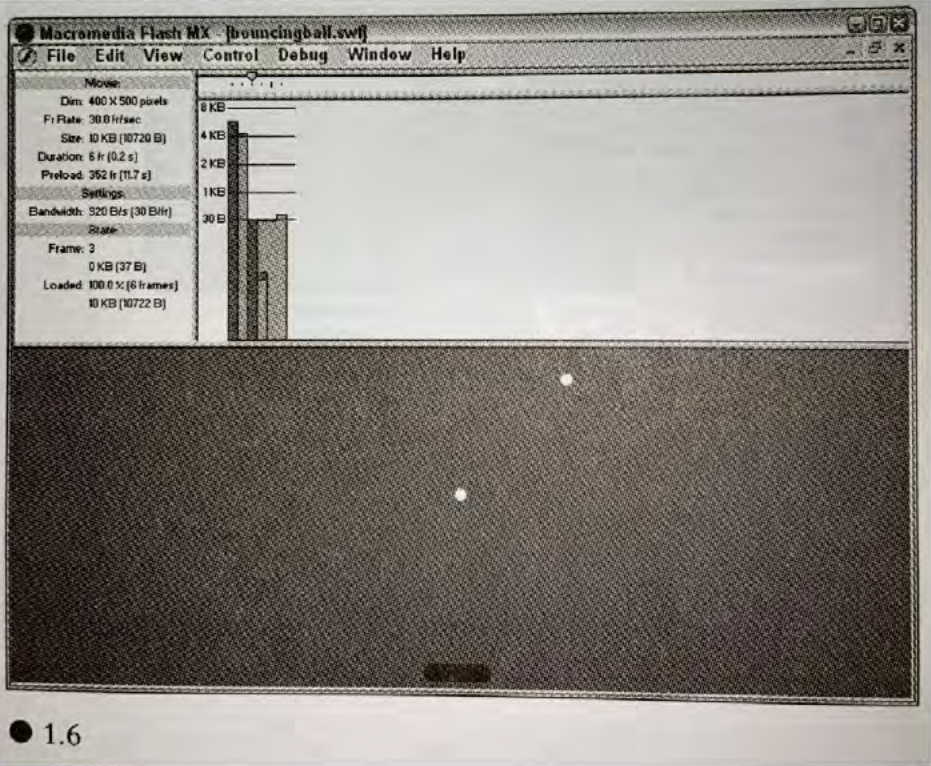| '579 Claim 17	Reference/Combination
	For example, the Bandwidth Profiler in Flash MX Professional 2004 identifies the ActionScript, symbols, function calls, and graphical assets (one or more areas of code, or functions, or both) of the Flash application responsible for utilization of bandwidth at a given frame (a given time). [*Flash MX 2004 Using Flash*, pp. 38–39] The Flash Player attempts to meet the frame rate you set; the actual frame rate during playback can vary on different computers. If a document that is downloading reaches a particular frame before the frame's required data has downloaded, the document pauses until the data arrives. [¶] To view downloading performance graphically, you can use the Bandwidth Profiler, which shows how much data is sent for each frame according to the modem speed you specify. The Bandwidth Profiler is divided into two panes. The left pane shows information about the document, the download settings, the state, and streams, if any are included. The right pane shows information about individual frames in the document. [¶] In simulating the downloading speed, Flash uses estimates of typical Internet performance, not the exact modem speed. For example, if you choose to simulate a modem speed of 28.8 Kbps, Flash sets the actual rate to 2.3 Kbps to reflect typical Internet performance. The profiler also compensates for the added compression support for SWF files, which reduces the file size and improves streaming performance. [¶] When external SWF files, GIF and XML files, and variables are streamed into a player by using ActionScript calls such as loadMovie and getUrl, the data flows at the rate set for streaming. The stream rate for the main SWF file is reduced based on the reduction of bandwidth caused by the additional data requests. It's helpful to test your document at each speed you intend to support, and on each computer you intend to support. This helps you ensure that the document doesn't overburden the slowest connection and computer it is designed for. [¶] You can also generate a report of frames that are slowing playback, and then optimize or eliminate some of the content in those frames. See "Optimizing Flash documents" on page 36. [¶] To change the settings for the SWF file created using the Test Movie and Test Scene commands, use File > Publish Settings. See "Publishing Flash documents" on page 281. [¶]

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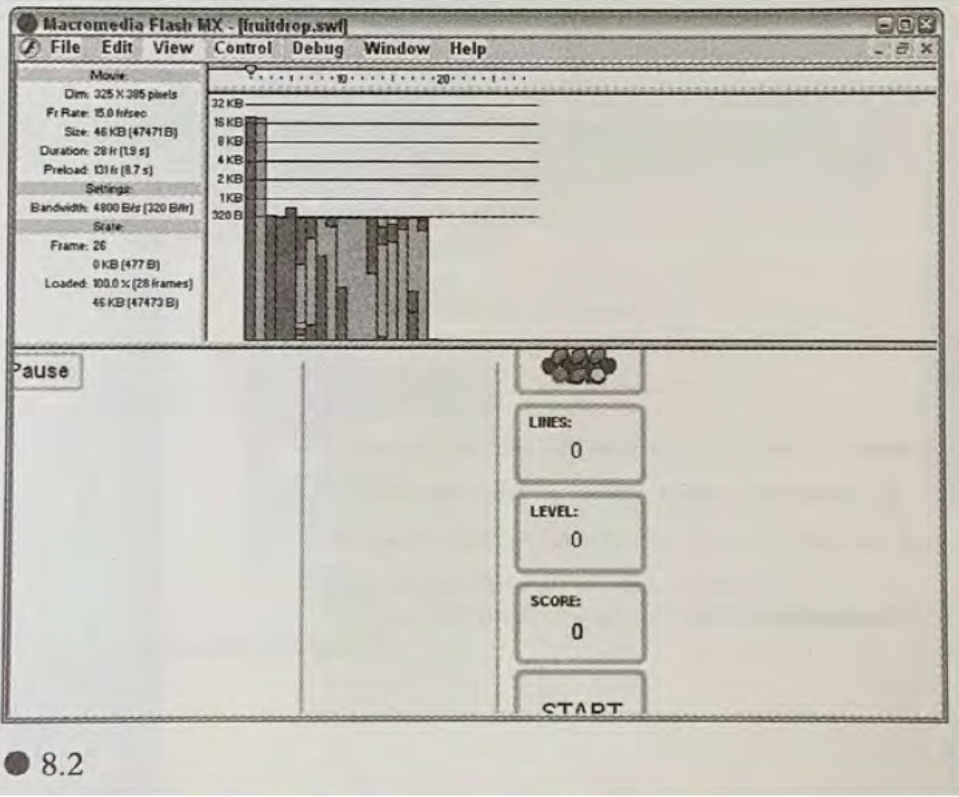| '579 Claim 17	Reference/Combination
	To test download performance: [¶] Do one of the following: [¶] Select Control > Test Scene or Control > Test Movie. [¶] If you test a scene or document, Flash publishes the current selection as a SWF file using the settings in the Publish Settings dialog box. (See "Publishing Flash documents" on page 281.) The SWF file opens in a new window and begins playing immediately. [¶] Select File > Open, and select a SWF file. [¶]
	Select View > Download Settings, and select a download speed to determine the streaming rate that Flash simulates: 14.4 Kbps, 28.8 Kbps, 56 Kbps, DSL, T1 or a User Setting. To enter your your own User Setting, select Customize. [¶]
	When viewing the SWF file, select View > Bandwidth Profiler to display a graph of the downloading performance. [¶] The left side of the profiler displays information about the document, its settings, its state, and streams, if any are included in the document. [¶] The right section of the profiler shows the Timeline header and graph. In the graph, each bar represents an individual frame of the document. The size of the bar corresponds to that frame's size in bytes. The red line beneath the Timeline header indicates whether a given frame streams in real time with the current modem speed set in the Control menu. If a bar extends above the red line, the document must wait for that frame to load. [¶]
	Select View > Simulate Download to turn streaming off or on. [¶] If you turn streaming off, the document starts over without simulating a web connection. [¶]
	Click a bar on the graph to display settings for the corresponding frame in the left window and stop the document. [¶]
	If necessary, adjust the view of the graph: [¶] Select View > Streaming Graph to show which frames cause pauses. This default view displays alternating light and dark gray blocks representing each frame. The side of each block indicates its relative byte size. The first frame stores a symbol's contents, so it is often larger than other frames. [¶] Select View > Frame by Frame Graph to display the size of each frame. This view helps you see which frames contribute to streaming delays. If any frame block extends above the red line in the graph, the Flash Player halts playback until the entire frame downloads. [¶]
	Close the test window to return to the normal authoring environment. [¶] Once you've set up a test environment incorporating the Bandwidth Profiler, you can open any SWF file directly in test mode. The file

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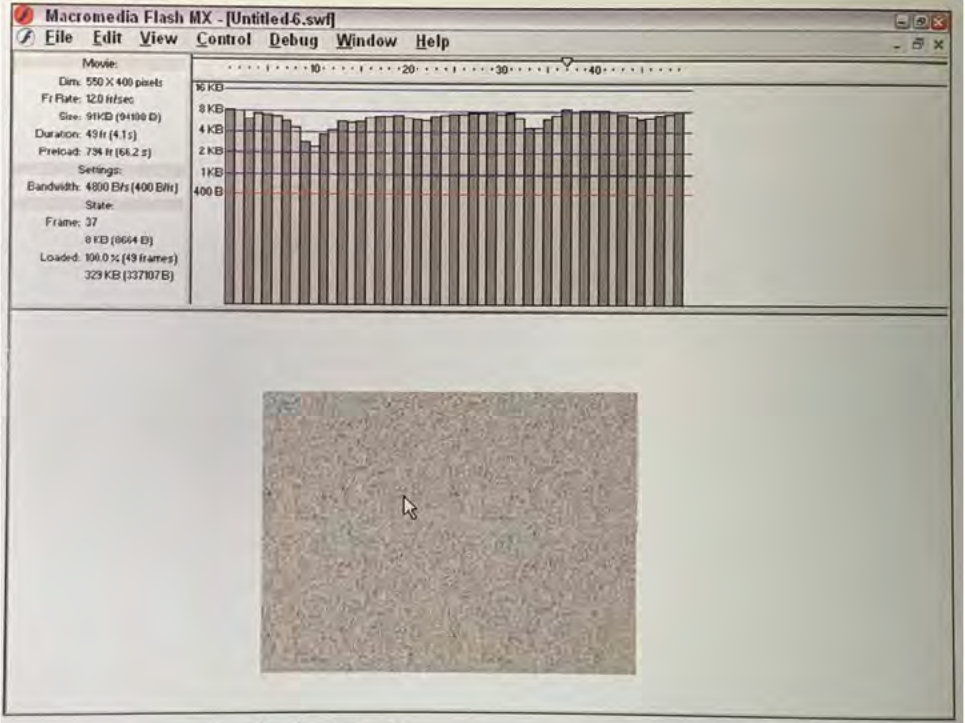| '579 Claim 17	Reference/Combination
	opens in a Flash Player window, using the Bandwidth Profiler and other selected viewing options. [¶] For more information on debugging your documents, see "Writing and Debugging Scripts" in ActionScript Reference Guide Help. [¶] To generate a report listing the amount of data in the final Flash Player file: [¶] Select File > Publish Settings and click the Flash tab. [¶] Select Generate Size Report. [¶] Click Publish. [¶] Flash generates a text file with the extension .txt. (If the document file is myMovie.fla, the text file is myMovie Report.txt.) The report lists the size of each frame, shape, text, sound, video and ActionScript script by frame. [*Flash MX 2004 Using Flash*, p. 390] In addition, Flash files are compact, making them perfect for wireless carrier networks, where transfer rates range between 9.6 and 60 kilobytes per second (Kbps). Mobile devices, unlike desktop computers, have limited storage capability, so the small footprint of Flash is ideal. David discloses, via screenshots, the appearance of the Bandwidth Profiler. [David, p. 7]

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'579 Claim 17	Reference/Combination
	● 1.6
	[David, p. 98]

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'579 Claim 17	Reference/Combination
	[David, #18 of 32 unnumbered pages between pages numbered 192 and 193]

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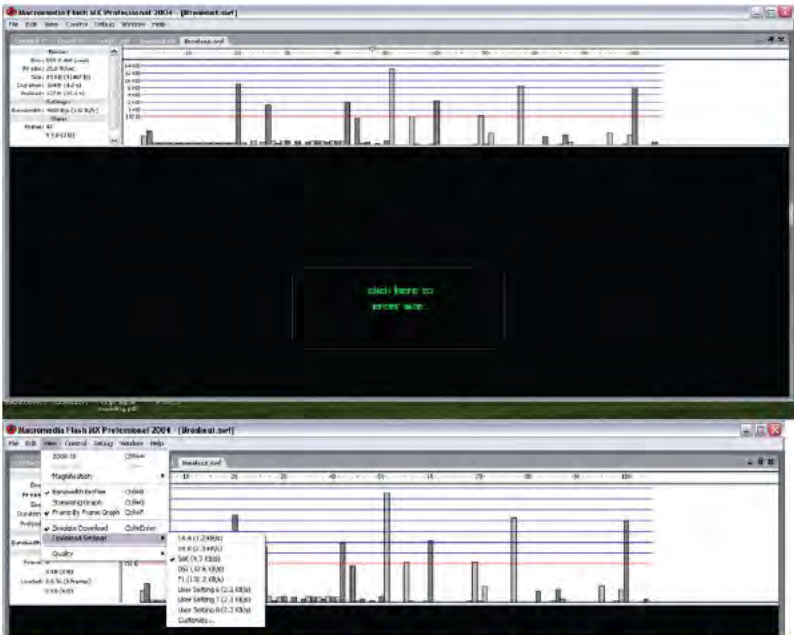| '579 Claim 17	Reference/Combination
	To the extent this limitation is not explicitly disclosed by the Flash MX Professional 2004 system, it is inherent or would have been obvious to a POSA from the teachings of the Flash MX Professional 2004 system, the knowledge of a POSA, and/or one or more of the references identified in JPMC's Invalidity Contentions.

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'579 Claim 17	Reference/Combination

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'579 Claim 18	Reference/Combination
18[a] The medium of claim 15, wherein the characteristics include bandwidth information.	The Flash MX Professional 2004 system discloses this limitation. For example, Flash MX Professional 2004 selects a modem speed and typical Internet performance (bandwidth information). See disclosures for claim limitation 15[b] (hereby incorporated by reference). To the extent this limitation is not explicitly disclosed by the Flash MX Professional 2004 system, it is inherent or would have been obvious to a POSA from the teachings of the Flash MX Professional 2004 system, the knowledge of a POSA, and/or one or more of the references identified in JPMC's Invalidity Contentions.

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'579 Claim 19	Reference/Combination
19[a] The medium of claim 18, wherein the instructions simulate one or more network events that occur when interacting with a wireless network.	The Flash MX Professional 2004 system discloses this limitation. Flash MX Professional 2004 screenshot showing "Simulate Download" in the Bandwidth Profiler. For example, the Bandwidth Profiler in Flash MX Professional 2004 simulates a download, a web connection, compression, streams, typical Internet performance, and additional data requests (one or more

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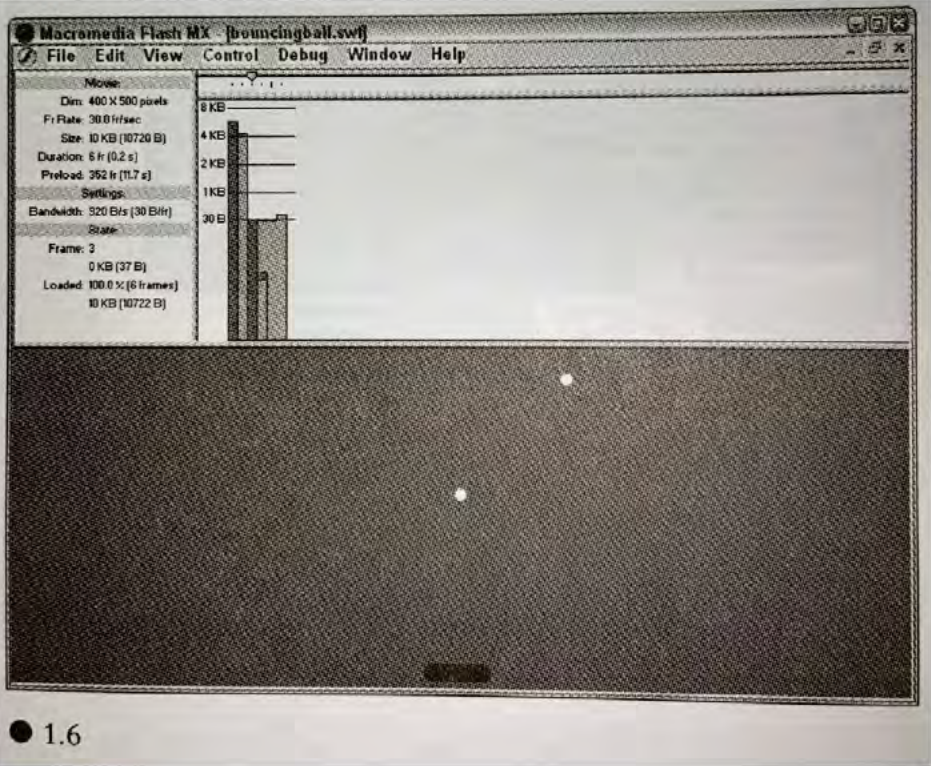| '579 Claim 19	Reference/Combination
	network events) that occur when loading and playing the Flash application within a browser (when interacting with a wireless network).
	[*Flash MX 2004 Using Flash*, pp. 38–39] The Flash Player attempts to meet the frame rate you set; the actual frame rate during playback can vary on different computers. If a document that is downloading reaches a particular frame before the frame's required data has downloaded, the document pauses until the data arrives. [¶]
	To view downloading performance graphically, you can use the Bandwidth Profiler, which shows how much data is sent for each frame according the modem speed you specify. The Bandwidth Profiler is divided into two panes. The left pane shows information about the document, the download settings, the state, and streams, if any are included. The right pane shows information about individual frames in the document. [¶]
	In simulating the downloading speed, Flash uses estimates of typical Internet performance, not the exact modem speed. For example, if you choose to simulate a modem speed of 28.8 Kbps, Flash sets the actual rate to 2.3 Kbps to reflect typical Internet performance. The profiler also compensates for the added compression support for SWF files, which reduces the file size and improves streaming performance. [¶]
	When external SWF files, GIF and XML files, and variables are streamed into a player by using ActionScript calls such as loadMovie and getUrl, the data flows at the rate set for streaming. The stream rate for the main SWF file is reduced based on the reduction of bandwidth caused by the additional data requests. It's helpful to test your document at each speed you intend to support, and on each computer you intend to support. This helps you ensure that the document doesn't overburden the slowest connection and computer it is designed for. [¶]
	You can also generate a report of frames that are slowing playback, and then optimize or eliminate some of the content in those frames. See "Optimizing Flash documents" on page 36. [¶]
	To change the settings for the SWF file created using the Test Movie and Test Scene commands, use File > Publish Settings. See "Publishing Flash documents" on page 281. [¶]

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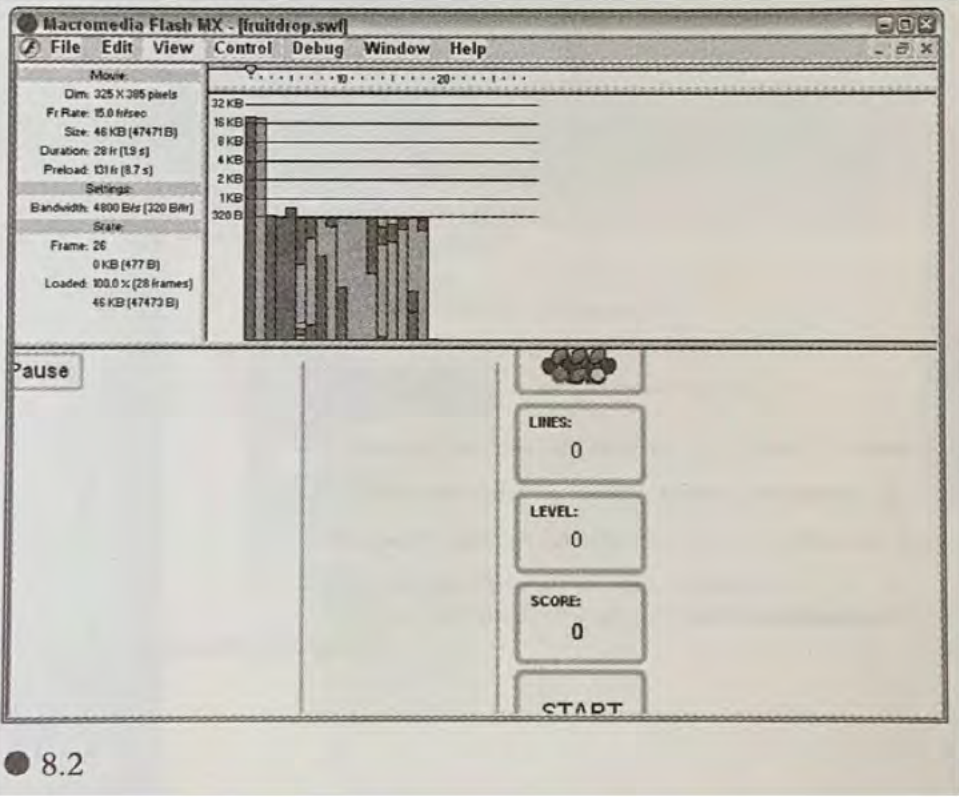| '579 Claim 19	Reference/Combination
	To test download performance: [¶] Do one of the following: [¶] Select Control > Test Scene or Control > Test Movie. [¶] If you test a scene or document, Flash publishes the current selection as a SWF file using the settings in the Publish Settings dialog box. (See "Publishing Flash documents" on page 281.) The SWF file opens in a new window and begins playing immediately. [¶] Select File > Open, and select a SWF file. [¶] Select View > Download Settings, and select a download speed to determine the streaming rate that Flash simulates: 14.4 Kbps, 28.8 Kbps, 56 Kbps, DSL, T1 or a User Setting. To enter your your own User Setting, select Customize. [¶] When viewing the SWF file, select View > Bandwidth Profiler to display a graph of the downloading performance. [¶] The left side of the profiler displays information about the document, its settings, its state, and streams, if any are included in the document. [¶] The right section of the profiler shows the Timeline header and graph. In the graph, each bar represents an individual frame of the document. The size of the bar corresponds to that frame's size in bytes. The red line beneath the Timeline header indicates whether a given frame streams in real time with the current modem speed set in the Control menu. If a bar extends above the red line, the document must wait for that frame to load. [¶] Select View > Simulate Download to turn streaming off or on. [¶] If you turn streaming off, the document starts over without simulating a web connection. [¶] Click a bar on the graph to display settings for the corresponding frame in the left window and stop the document. [¶] If necessary, adjust the view of the graph: [¶] Select View > Streaming Graph to show which frames cause pauses. This default view displays alternating light and dark gray blocks representing each frame. The side of each block indicates its relative byte size. The first frame stores a symbol's contents, so it is often larger than other frames. [¶] Select View > Frame by Frame Graph to display the size of each frame. This view helps you see which frames contribute to streaming delays. If any frame block extends above the red line in the graph, the Flash Player halts playback until the entire frame downloads. [¶] Close the test window to return to the normal authoring environment. [¶] Once you've set up a test environment incorporating the Bandwidth Profiler, you can open any SWF file directly in test mode. The file

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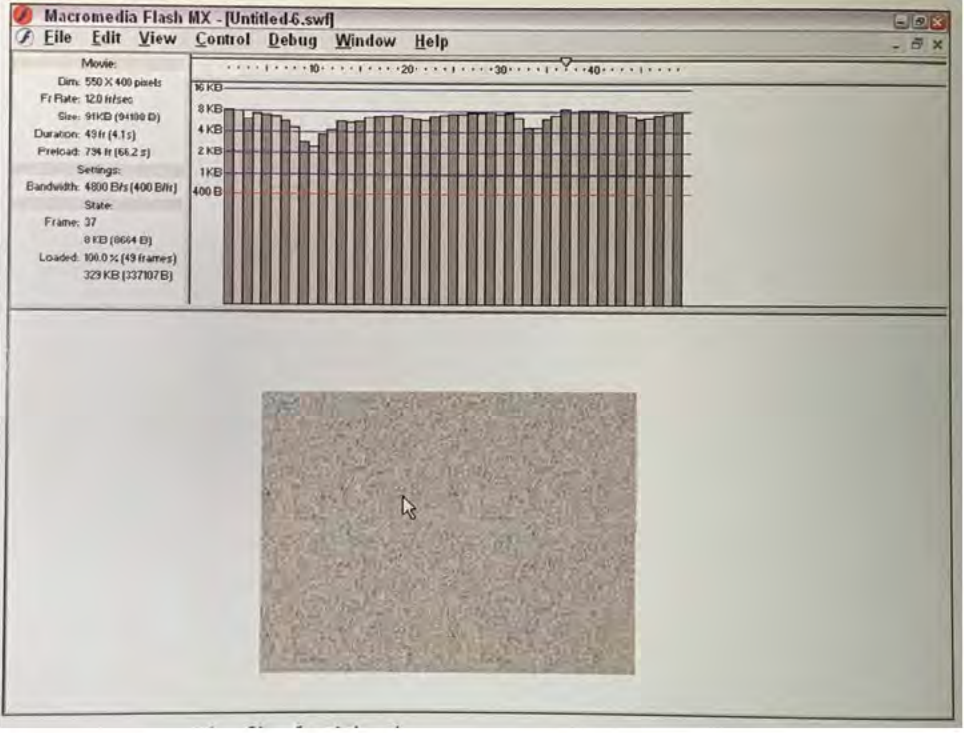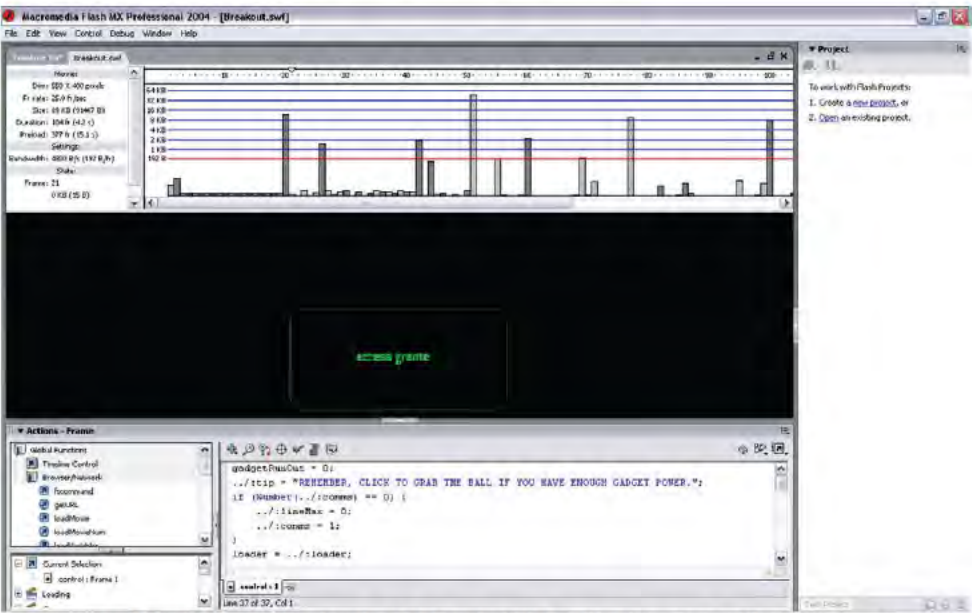| '579 Claim 19	Reference/Combination
	opens in a Flash Player window, using the Bandwidth Profiler and other selected viewing options. [¶] For more information on debugging your documents, see "Writing and Debugging Scripts" in ActionScript Reference Guide Help. [¶] To generate a report listing the amount of data in the final Flash Player file: [¶] Select File > Publish Settings and click the Flash tab. [¶] Select Generate Size Report. [¶] Click Publish. [¶] Flash generates a text file with the extension .txt. (If the document file is myMovie.fla, the text file is myMovie Report.txt.) The report lists the size of each frame, shape, text, sound, video and ActionScript script by frame. [*Flash MX 2004 Using Flash*, p. 390] In addition, Flash files are compact, making them perfect for wireless carrier networks, where transfer rates range between 9.6 and 60 kilobytes per second (Kbps). Mobile devices, unlike desktop computers, have limited storage capability, so the small footprint of Flash is ideal. David discloses, via screenshots, the appearance of the Bandwidth Profiler. [David, p. 7]

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'579 Claim 19	Reference/Combination
	● 1.6
	[David, p. 98]

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'579 Claim 19	Reference/Combination
	  ● 8.2 [David, #18 of 32 unnumbered pages between pages numbered 192 and 193]

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'579 Claim 19	Reference/Combination
	To the extent this limitation is not explicitly disclosed by the Flash MX Professional 2004 system, it is inherent or would have been obvious to a POSA from the teachings of the Flash MX Professional 2004 system, the knowledge of a POSA, and/or one or more of the references identified in JPMC's Invalidity Contentions.

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'579 Claim 19	Reference/Combination

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'579 Claim 20	Reference/Combination
20[a] The medium of claim 19, wherein scripts can be created to simulate events that occur on the mobile device to determine the performance of the application, or the network, or both.	The Flash MX Professional 2004 system discloses this limitation. Screenshot of Flash MX Professional 2004 Bandwidth Profiler interface with "Actions – Frame" window enabling creating ActionScript scripts within the Flash application. For example, the manual discloses that Flash MX Professional 2004 supports creating ActionScript (scripts). [*Flash MX 2004 Using Flash*, p. 23]

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'579 Claim 20	Reference/Combination
	Working with scenes [¶] To organize a document thematically, you can use scenes. For example, you might use separate scenes for an introduction, a loading message, and credits. [¶] Note: You cannot use scenes in a screen-based document. For information on screens, see Chapter 12, "Working with Screens (Flash Professional Only)," on page 197. [¶]
	When you publish a Flash document that contains more than one scene, the scenes in the document play back in the order they are listed in the Scene panel in the Flash document. Frames in the document are numbered consecutively through scenes. For example, if a document contains two scenes with ten frames each, the frames in Scene 2 are numbered 11–20. [¶]
	You can add, delete, duplicate, rename, and change the order of scenes. [¶]
	To stop or pause a document after each scene, or to let users navigate the document in a nonlinear fashion, you use actions. See "ActionScript Basics" in ActionScript Reference Guide Help. [¶]
	To display the Scene panel: • Select Window > Design Panels > Scene. [¶]
	To view a particular scene: • Select View > Go To and then select the name of the scene from the submenu. [¶]
	To add a scene, do one of the following: • Click the Add Scene button in the Scene panel. • Select Insert > Scene.
	ActionScript adds complex interactivity, playback control, and data display, and can store and retrieve information, and thereby can simulate events that occur on the mobile device. ActionScript also has networking capabilities, such as by calling loadMovie and getUrl, so it can also determine the performance of the network.

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'579 Claim 20	Reference/Combination
	[*Flash MX 2004 Using Flash*, p. 18] ActionScript is the Flash scripting language that enables you to add complex interactivity, playback control, and data display to a Flash document. You can add ActionScript within the Flash authoring environment using the Actions panel, or create external ActionScript files using an external editor. [¶] You don't need to understand every ActionScript element to begin scripting; if you have a clear goal, you can start building scripts with simple actions. You can incorporate new elements of the language as you learn them to accomplish more complicated tasks. [¶] Like other scripting languages, ActionScript follows its own rules of syntax, reserves keywords, provides operators, and allows you to use variables to store and retrieve information. ActionScript includes built-in objects and functions and allows you to create your own objects and functions. For more information on ActionScript, see "ActionScript Basics" in ActionScript Reference Guide Help. [*Flash MX 2004 Using Flash*, p. 38] When external SWF files, GIF and XML files, and variables are streamed into a player by using ActionScript calls such as loadMovie and getUrl, the data flows at the rate set for streaming. The stream rate for the main SWF file is reduced based on the reduction of bandwidth caused by the additional data requests. As another example, the Bandwidth Profiler can run a scripted simulation of a download, thereby creating a script to simulate a download event that occurs on the mobile device to determine the performance of the application and network. [*Flash MX 2004 Using Flash*, pp. 38–39] The Flash Player attempts to meet the frame rate you set; the actual frame rate during playback can vary on different computers. If a document that is downloading reaches a particular frame before the frame's required data has downloaded, the document pauses until the data arrives. [¶] To view downloading performance graphically, you can use the Bandwidth Profiler, which shows how much data is sent for each frame according to the modem speed you specify. The Bandwidth Profiler is divided into

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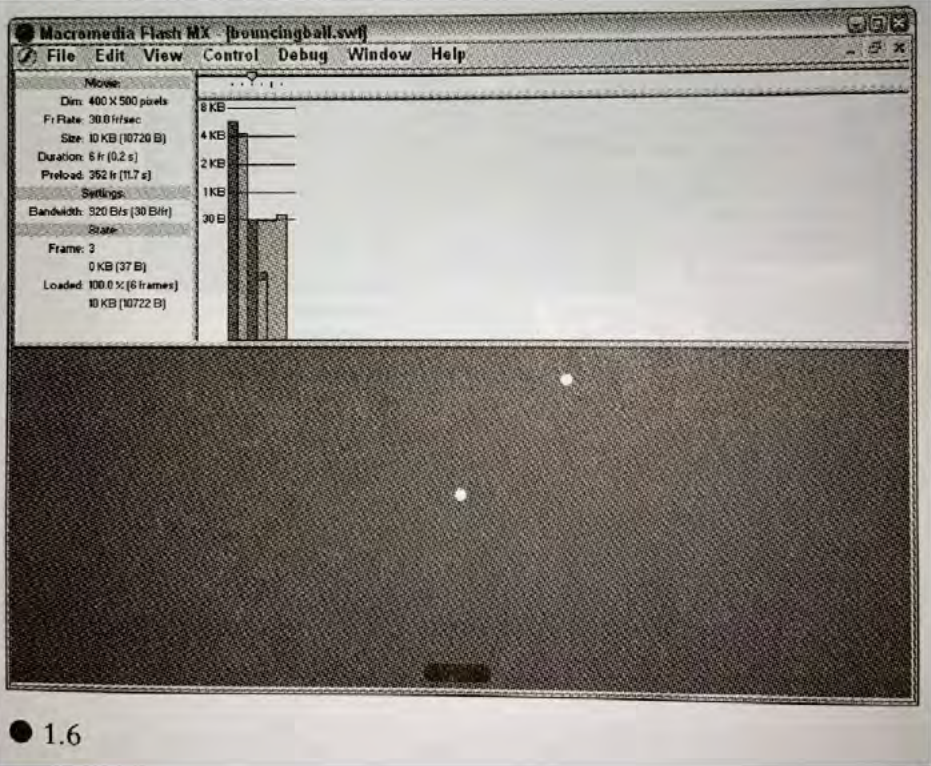| '579 Claim 20	Reference/Combination
	two panes. The left pane shows information about the document, the download settings, the state, and streams, if any are included. The right pane shows information about individual frames in the document. [¶] In simulating the downloading speed, Flash uses estimates of typical Internet performance, not the exact modem speed. For example, if you choose to simulate a modem speed of 28.8 Kbps, Flash sets the actual rate to 2.3 Kbps to reflect typical Internet performance. The profiler also compensates for the added compression support for SWF files, which reduces the file size and improves streaming performance. [¶] When external SWF files, GIF and XML files, and variables are streamed into a player by using ActionScript calls such as loadMovie and getUrl, the data flows at the rate set for streaming. The stream rate for the main SWF file is reduced based on the reduction of bandwidth caused by the additional data requests. It's helpful to test your document at each speed you intend to support, and on each computer you intend to support. This helps you ensure that the document doesn't overburden the slowest connection and computer it is designed for. [¶] You can also generate a report of frames that are slowing playback, and then optimize or eliminate some of the content in those frames. See "Optimizing Flash documents" on page 36. [¶] To change the settings for the SWF file created using the Test Movie and Test Scene commands, use File > Publish Settings. See "Publishing Flash documents" on page 281. [¶] To test download performance: [¶] Do one of the following: [¶] Select Control > Test Scene or Control > Test Movie. [¶] If you test a scene or document, Flash publishes the current selection as a SWF file using the settings in the Publish Settings dialog box. (See "Publishing Flash documents" on page 281.) The SWF file opens in a new window and begins playing immediately. [¶] Select File > Open, and select a SWF file. [¶] Select View > Download Settings, and select a download speed to determine the streaming rate that Flash simulates: 14.4 Kbps, 28.8 Kbps, 56 Kbps, DSL, T1 or a User Setting. To enter your your own User Setting, select Customize. [¶] When viewing the SWF file, select View > Bandwidth Profiler to display a graph of the downloading performance. [¶] The left side of the profiler displays information about the document, its settings, its state,

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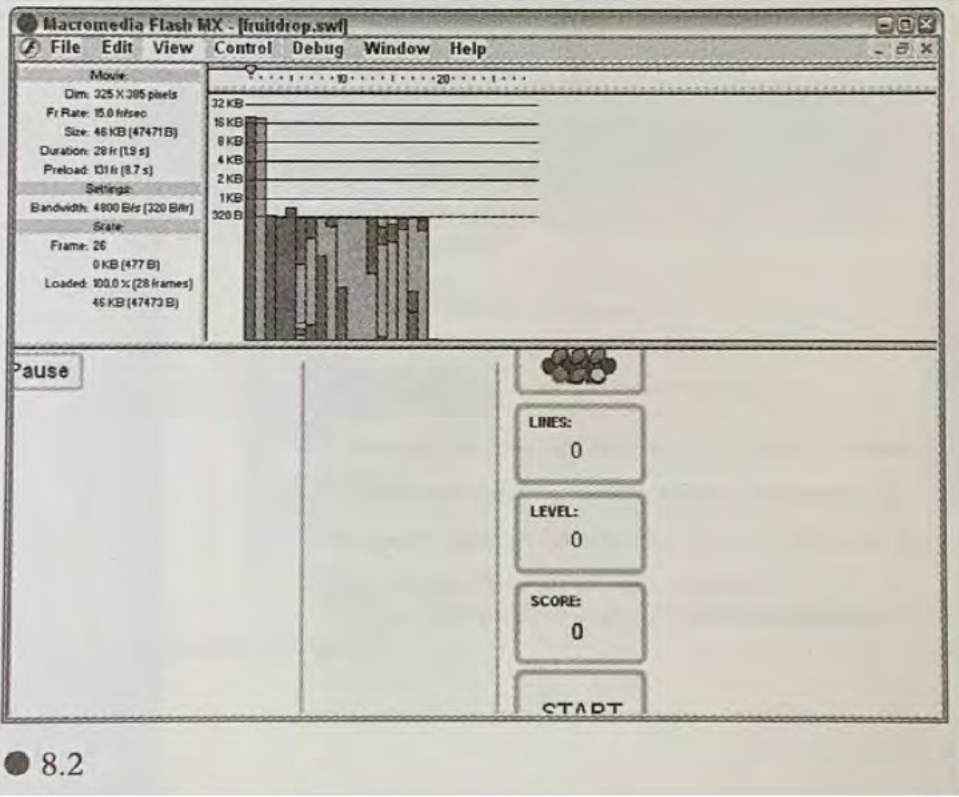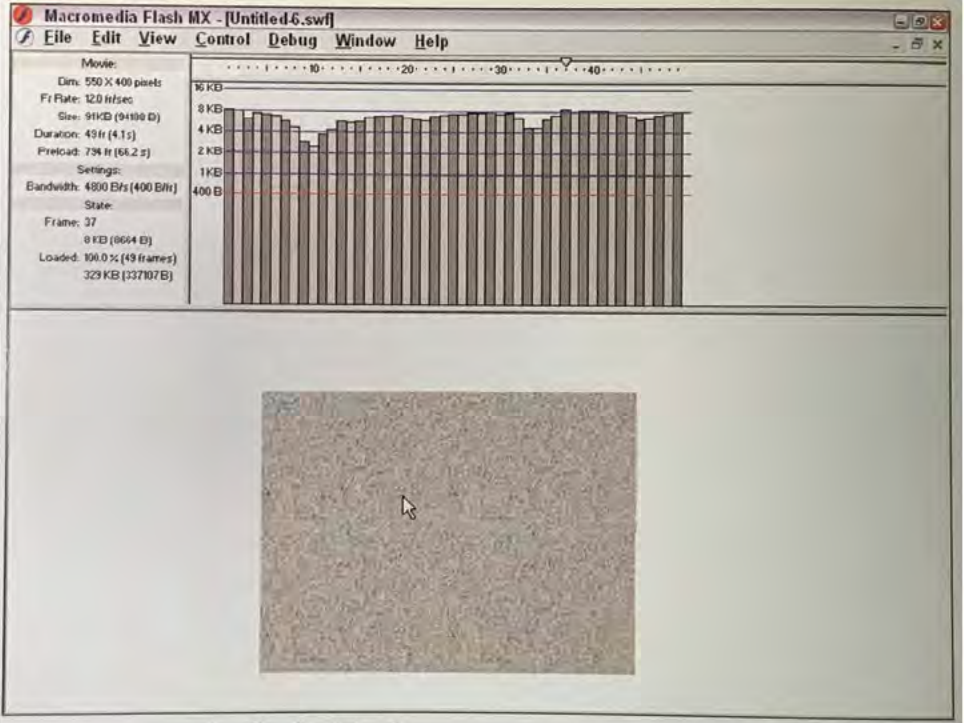| '579 Claim 20	Reference/Combination
	and streams, if any are included in the document. [¶] The right section of the profiler shows the Timeline header and graph. In the graph, each bar represents an individual frame of the document. The size of the bar corresponds to that frame's size in bytes. The red line beneath the Timeline header indicates whether a given frame streams in real time with the current modem speed set in the Control menu. If a bar extends above the red line, the document must wait for that frame to load. [¶] Select View > Simulate Download to turn streaming off or on. [¶] If you turn streaming off, the document starts over without simulating a web connection. [¶] Click a bar on the graph to display settings for the corresponding frame in the left window and stop the document. [¶] If necessary, adjust the view of the graph: [¶] Select View > Streaming Graph to show which frames cause pauses. This default view displays alternating light and dark gray blocks representing each frame. The side of each block indicates its relative byte size. The first frame stores a symbol's contents, so it is often larger than other frames. [¶] Select View > Frame by Frame Graph to display the size of each frame. This view helps you see which frames contribute to streaming delays. If any frame block extends above the red line in the graph, the Flash Player halts playback until the entire frame downloads. [¶] Close the test window to return to the normal authoring environment. [¶] Once you've set up a test environment incorporating the Bandwidth Profiler, you can open any SWF file directly in test mode. The file opens in a Flash Player window, using the Bandwidth Profiler and other selected viewing options. [¶] For more information on debugging your documents, see "Writing and Debugging Scripts" in ActionScript Reference Guide Help. [¶] To generate a report listing the amount of data in the final Flash Player file: [¶] Select File > Publish Settings and click the Flash tab. [¶] Select Generate Size Report. [¶] Click Publish. [¶] Flash generates a text file with the extension .txt. (If the document file is myMovie.fla, the text file is myMovie Report.txt.) The report lists the size of each frame, shape, text, sound, video and ActionScript script by frame.

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'579 Claim 20	Reference/Combination
	[Flash MX 2004 Using Flash, p. 390] In addition, Flash files are compact, making them perfect for wireless carrier networks, where transfer rates range between 9.6 and 60 kilobytes per second (Kbps). Mobile devices, unlike desktop computers, have limited storage capability, so the small footprint of Flash is ideal. David discloses, via screenshots, the appearance of the Bandwidth Profiler. [David, p. 7]

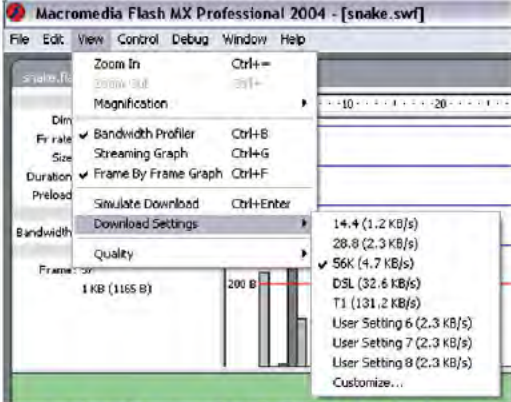*Wapp Tech Limited Partnership et al. v. JPMorgan Chase Bank, N.A.*, No. 4:23-cv-1137 (E.D. Tex.)

'579 Claim 20	Reference/Combination
	● 1.6
	[David, p. 98]

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'579 Claim 20	Reference/Combination
	● 8.2 [David, #18 of 32 unnumbered pages between pages numbered 192 and 193]

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'579 Claim 20	Reference/Combination
	To the extent this limitation is not explicitly disclosed by the Flash MX Professional 2004 system, it is inherent or would have been obvious to a POSA from the teachings of the Flash MX Professional 2004 system, the knowledge of a POSA, and/or one or more of the references identified in JPMC's Invalidity Contentions.

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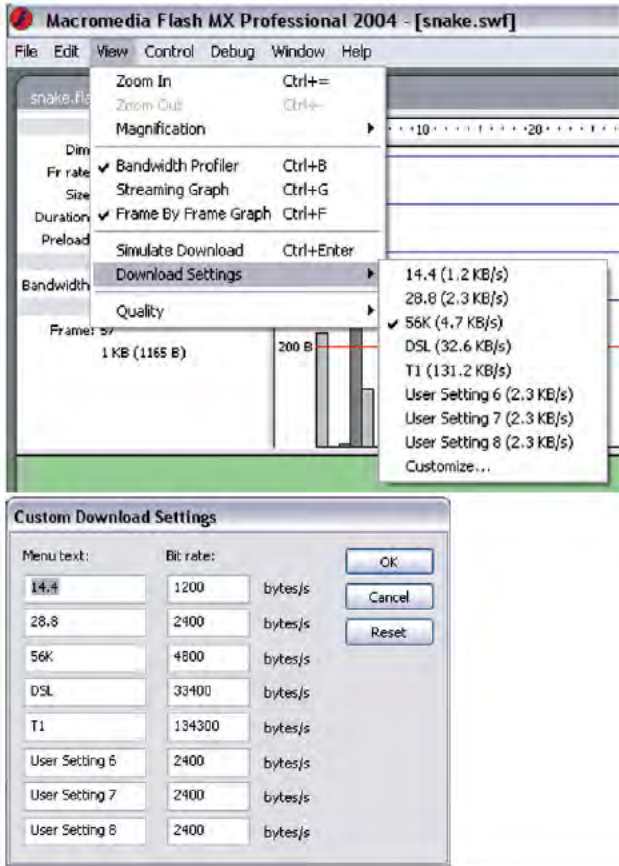
'579 Claim 20	Reference/Combination

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'579 Claim 25	Reference/Combination
25[a] The medium of claim 18, wherein the network characteristics are displayed using at least one of a map, drop-down list, and drop-down menu.	The Flash MX Professional 2004 system discloses this limitation. Screenshot showing the Flash MX Professional 2004 Bandwidth Profiler displays network characteristics in a drop-down list and/or menu. For example, Flash MX Professional 2004 expressly and/or inherently displays download speeds in a map, drop-down list, and/or drop-down menu. *[Flash MX 2004 Using Flash, p. 38]* Select View > Download Settings, and select a download speed to determine the streaming rate that Flash simulates: 14.4 Kbps, 28.8 Kbps, 56 Kbps, DSL, T1 or a User Setting. To the extent this limitation is not expressly or inherently disclosed, it would have been obvious to a POSITA in light of the disclosure of choice above or in light of the POSITA's general knowledge of how software generally presents a list or menu of options.

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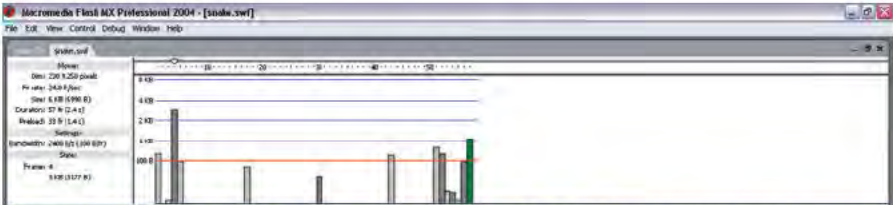| '579 Claim 25	Reference/Combination
	To the extent this limitation is not explicitly disclosed by the Flash MX Professional 2004 system, it is inherent or would have been obvious to a POSA from the teachings of the Flash MX Professional 2004 system, the knowledge of a POSA, and/or one or more of the references identified in JPMC's Invalidity Contentions.

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'579 Claim 26	Reference/Combination
26[a] The medium of claim 18, wherein the network characteristics can be managed or custom network characteristics can be created.	The Flash MX Professional 2004 system discloses this limitation.

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'579 Claim 26	Reference/Combination
	The Flash MX Professional 2004 Bandwidth Profiler User Settings under Download Settings are configured to enable a user to manage and create custom network characteristics. For example, Flash MX Professional 2004 allows the user to manage and/or customize the download speed. [*Flash MX 2004 Using Flash*, p. 38] Select View > Download Settings, and select a download speed to determine the streaming rate that Flash simulates: 14.4 Kbps, 28.8 Kbps, 56 Kbps, DSL, T1 or a User Setting. To enter your your own User Setting, select Customize. [*Flash MX 2004 Using Flash*, p. 385] Bandwidth Selection template uses forms and components to present the selection interface. This interface lets users control how much content they receive and lets authors tailor their applications to a variety of connection speeds. After the user makes a speed selection, the media playback component is directed to play the specified video. [¶] The Select screen contains radio buttons that allow bandwidth selection. ActionScript to handle the selection of radio buttons is included within the Timeline of this screen. [¶] To change the option labels or the number of options that users is presented, you can add, remove, or edit the components on the Select form. To the extent this limitation is not explicitly disclosed by the Flash MX Professional 2004 system, it is inherent or would have been obvious to a POSA from the teachings of the Flash MX Professional 2004 system, the knowledge of a POSA, and/or one or more of the references identified in JPMC's Invalidity Contentions.

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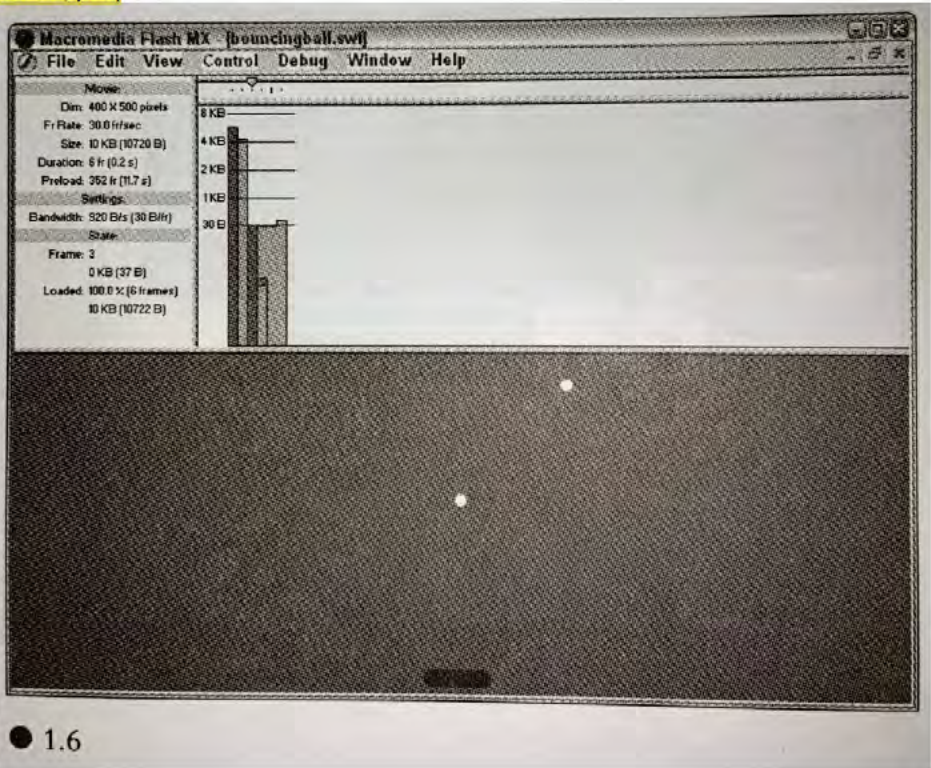| '579 Claim 27	Reference/Combination
27[a] The medium of claim 18, wherein the instructions display simultaneously two or more representations of the monitored resource.	The Flash MX Professional 2004 system discloses this limitation. Screenshot of Flash MX Professional 2004 Bandwidth Profiler showing a simultaneous representation of network usage: frame 4 used 3 KB, represented both in text on the left and in a bar in the bar chart on the right. For example, the Bandwidth Profiler in Flash MX Professional 2004 displays simultaneously two or more representations of bandwidth. For example, each bar in the bar graph represents bandwidth usage, and clicking a bar in the bar graph on the right displays information about the bar on the left, such as the bandwidth used. [*Flash MX 2004 Using Flash*, pp. 38–39] The Flash Player attempts to meet the frame rate you set; the actual frame rate during playback can vary on different computers. If a document that is downloading reaches a particular frame before the frame's required data has downloaded, the document pauses until the data arrives. [¶] To view downloading performance graphically, you can use the Bandwidth Profiler, which shows how much data is sent for each frame according to the modem speed you specify. The Bandwidth Profiler is divided into two panes. The left pane shows information about the document, the download settings, the state, and streams, if any are included. The right pane shows information about individual frames in the document. [¶] In simulating the downloading speed, Flash uses estimates of typical Internet performance, not the exact modem speed. For example, if you choose to simulate a modem speed of 28.8 Kbps, Flash sets the actual rate

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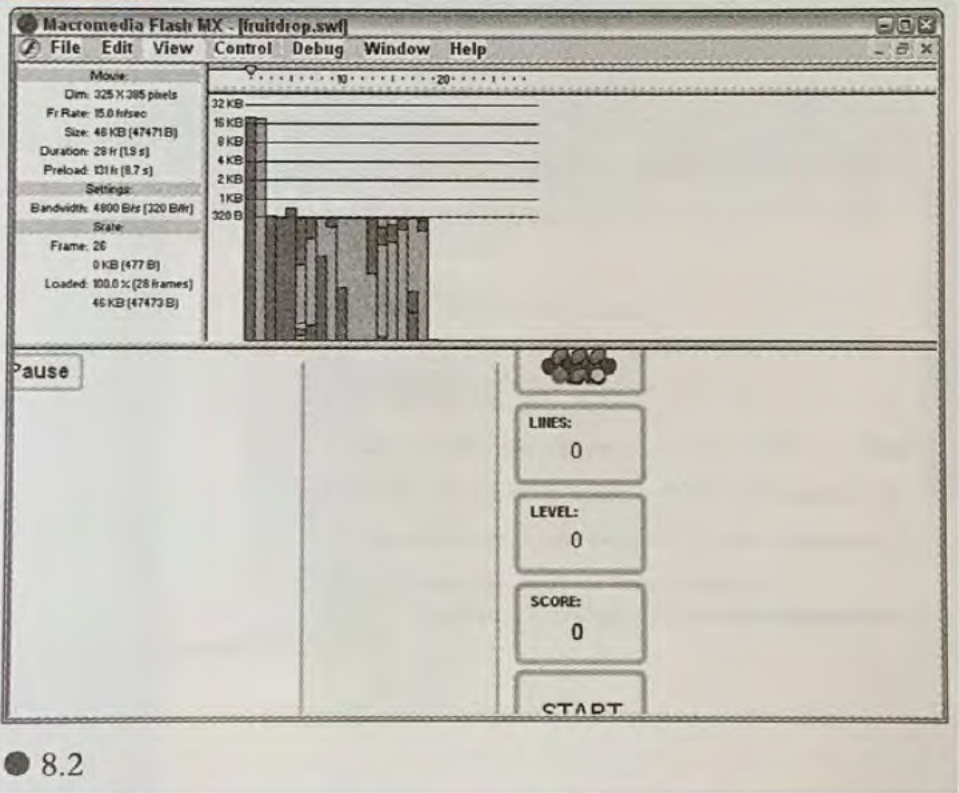| '579 Claim 27	Reference/Combination
	to 2.3 Kbps to reflect typical Internet performance. The profiler also compensates for the added compression support for SWF files, which reduces the file size and improves streaming performance. [¶]
	When external SWF files, GIF and XML files, and variables are streamed into a player by using ActionScript calls such as loadMovie and getUrl, the data flows at the rate set for streaming. The stream rate for the main SWF file is reduced based on the reduction of bandwidth caused by the additional data requests. It's helpful to test your document at each speed you intend to support, and on each computer you intend to support. This helps you ensure that the document doesn't overburden the slowest connection and computer it is designed for. [¶]
	You can also generate a report of frames that are slowing playback, and then optimize or eliminate some of the content in those frames. See "Optimizing Flash documents" on page 36. [¶]
	To change the settings for the SWF file created using the Test Movie and Test Scene commands, use File > Publish Settings. See "Publishing Flash documents" on page 281. [¶]
	To test download performance: [¶] Do one of the following: [¶] Select Control > Test Scene or Control > Test Movie. [¶] If you test a scene or document, Flash publishes the current selection as a SWF file using the settings in the Publish Settings dialog box. (See "Publishing Flash documents" on page 281.) The SWF file opens in a new window and begins playing immediately. [¶] Select File > Open, and select a SWF file. [¶]
	Select View > Download Settings, and select a download speed to determine the streaming rate that Flash simulates: 14.4 Kbps, 28.8 Kbps, 56 Kbps, DSL, T1 or a User Setting. To enter your your own User Setting, select Customize. [¶]
	When viewing the SWF file, select View > Bandwidth Profiler to display a graph of the downloading performance. [¶] The left side of the profiler displays information about the document, its settings, its state, and streams, if any are included in the document. [¶] The right section of the profiler shows the Timeline header and graph. In the graph, each bar represents an individual frame of the document. The size of the bar corresponds to that frame's size in bytes. The red line beneath the Timeline header indicates whether a given frame streams in real time with the current modem speed set in the Control menu. If a bar extends above the red line, the document must wait for that frame to load. [¶]

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'579 Claim 27	Reference/Combination
	Select View > Simulate Download to turn streaming off or on. [¶] If you turn streaming off, the document starts over without simulating a web connection. [¶] Click a bar on the graph to display settings for the corresponding frame in the left window and stop the document. [¶] If necessary, adjust the view of the graph: [¶] Select View > Streaming Graph to show which frames cause pauses. This default view displays alternating light and dark gray blocks representing each frame. The side of each block indicates its relative byte size. The first frame stores a symbol's contents, so it is often larger than other frames. [¶] Select View > Frame by Frame Graph to display the size of each frame. This view helps you see which frames contribute to streaming delays. If any frame block extends above the red line in the graph, the Flash Player halts playback until the entire frame downloads. [¶] Close the test window to return to the normal authoring environment. [¶] Once you've set up a test environment incorporating the Bandwidth Profiler, you can open any SWF file directly in test mode. The file opens in a Flash Player window, using the Bandwidth Profiler and other selected viewing options. [¶] For more information on debugging your documents, see "Writing and Debugging Scripts" in ActionScript Reference Guide Help. [¶] To generate a report listing the amount of data in the final Flash Player file: [¶] Select File > Publish Settings and click the Flash tab. [¶] Select Generate Size Report. [¶] Click Publish. [¶] Flash generates a text file with the extension .txt. (If the document file is myMovie.fla, the text file is myMovie Report.txt.) The report lists the size of each frame, shape, text, sound, video and ActionScript script by frame. *[Flash MX 2004 Using Flash*, p. 390] In addition, Flash files are compact, making them perfect for wireless carrier networks, where transfer rates range between 9.6 and 60 kilobytes per second (Kbps). Mobile devices, unlike desktop computers, have limited storage capability, so the small footprint of Flash is ideal.

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'579 Claim 27	Reference/Combination
	David discloses, via screenshots, the appearance of the Bandwidth Profiler. [David, p. 7] ● 1.6

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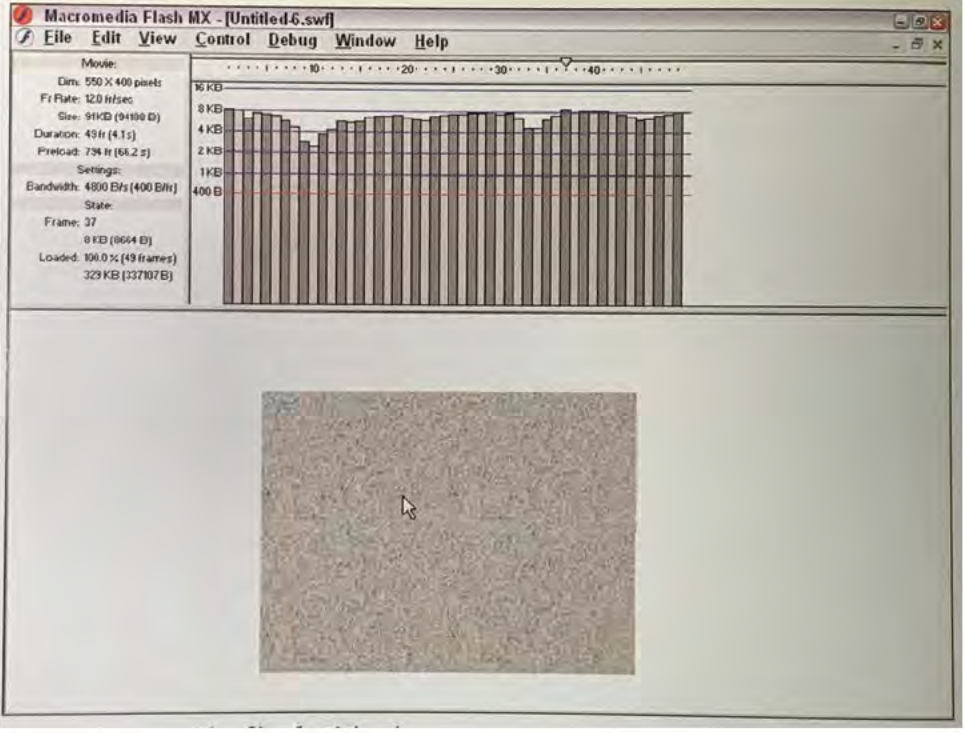| '579 Claim 27	Reference/Combination
	[David, p. 98] ● 8.2 [David, #18 of 32 unnumbered pages between pages numbered 192 and 193]

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'579 Claim 27	Reference/Combination
	To the extent this limitation is not explicitly disclosed by the Flash MX Professional 2004 system, it is inherent or would have been obvious to a POSA from the teachings of the Flash MX Professional 2004 system, the knowledge of a POSA, and/or one or more of the references identified in JPMC's Invalidity Contentions.

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'579 Claim 27	Reference/Combination

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'579 Claim 28	Reference/Combination
28[a] The medium of claim 27, wherein the instructions to display the representations are stored in at least one of a file, a database, and on computer-readable media that is accessible via the internet.	The Flash MX Professional 2004 system discloses this limitation. For example, Flash MX Professional 2004 is software comprising files because it is installed on the user's computer. [*Flash MX 2004 Using Flash*, p. 178] You can install the FLV Export plug-in after installation of Flash MX Professional 2004 is complete. [*Flash MX 2004 Getting Started with Flash*, p. 16] Installing and activating Flash [¶] Installing Flash is an automated process. After installation, you can choose to run the 30-day trial mode of Flash, or you can choose to activate either Flash MX 2004 or Flash MX 2004 Professional. Both editions of Flash must be activated over the Internet or phone prior to use, and you need your serial number to activate either edition of Flash unless you want to select trial mode. Windows 98 SE users must have Microsoft Internet Explorer 5.1 or later in order to activate over the Internet. [¶] Note: Installing Macromedia Flash MX 2004 and Macromedia Flash MX Professional 2004 does not overwrite earlier Flash versions, such as Macromedia Flash MX, that you might have installed. [¶] To install Flash: [¶] 1. Close any running versions of Flash before installing. [¶] 2. Do one of the following to start the installation process: ■ (Windows) If you have a CD, insert it in your CD drive. A Flash movie clip plays that guides you through installation choices. Note: You can also run Install Flash MX 2004.exe to start the Flash movie clip, if necessary. ■ (Macintosh) If you have a CD, insert it in your CD drive and double-click the Installer icon. ■ If you have downloaded Flash from the Internet, double-click FlashMX2004Installer.exe (Windows), or double-click the Installer icon (Macintosh) and follow the onscreen instructions. [¶] 3. When installation is complete, follow the instructions to select the 30-day trial period, or enter your serial number and activate Flash. [*Flash MX Professional 2004 Flash Lite 1.1 Authoring Guidelines*, pp. 7–8] To create content for mobile phones, you must have the following items on your computer: [¶] • The latest version of Macromedia Flash MX Professional 2004 (7.0.1) [¶] • The new FlashLite1_1.dll (FlashLite1_1.dmg on the Mac) file for testing Flash applications in the Flash Lite 1.1 authoring environment [¶] • The new FlashLite1_1.xml file for publishing Flash Lite 1.1 SWF files [¶] • The DevicesMsg.cfg configuration file for customizing the features that are supported in Flash Lite 1.1. [¶]

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'579 Claim 28	Reference/Combination
	Installing the Flash MX Professional 2004 7.0.1 update [¶] To export Flash Lite 1.1 contents for mobile phones correctly, you need to have the latest version of Macromedia Flash MX Professional 2004 (7.0.1). You can download the updater program from the Macromedia website: www.macromedia.com/support/flash/downloads.html. [¶] Installing the FlashLite1_1.dll (FlashLite1_1.dmg on the Mac) file [¶] The FlashLite1_1.dll (FlashLite1_1 on the Mac) file is part of the Flash Lite 1.1 Authoring Updater. This DLL is to be used to test content when you select Test Movie to validate your content. This new DLL is used when Flash Lite 1.1 is selected as the Flash version to publish to (using the publish setting interface). [...] The Flash Lite 1.1 Test Movie command allows users to customize the features that are supported in Flash Player. From the Flash Lite 1.1 Authoring Updater, copy the DeviceMsg.cfg configuration file [...] For example, Flash MX Professional 2004 is software. See disclosures for claim limitation 15[a] (hereby incorporated by reference). In software, instructions to display the representations are stored in at least one of a file, a database, and on computer-readable media that is accessible via the internet. To the extent this limitation is not explicitly disclosed by the Flash MX Professional 2004 system, it is inherent or would have been obvious to a POSA from the teachings of the Flash MX Professional 2004 system, the knowledge of a POSA, and/or one or more of the references identified in JPMC's Invalidity Contentions.

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'579 Claim 29	Reference/Combination
29[a] The medium of claim 15, wherein at least one of the one or more characteristics are stored on at least one of a file, a database and on a computer-readable media that is accessible via the internet.	The Flash MX Professional 2004 system discloses this limitation. For example, Flash MX Professional 2004 applications in development are stored in files. These files contain all of the application's settings and therefore at least one of the one or more characteristics, such as screen size and Flash Player version. [*Flash MX 2004 Using Flash*, p. 41] In Macromedia Flash MX Professional 2004, you can use Flash Projects to manage multiple document files in a single project. Flash Projects allow you to group multiple, related files together to create complex applications. [¶] You can use version-control features with projects to ensure that the correct file versions are used during editing, and to prevent accidental overwriting. To use version control, you must first add files to a project. For information on version control, see "Using version control with projects (Flash Professional only)" on page 45. [¶] Flash Projects include the following features: • A Flash Project can contain any Flash or other file type, including previous versions of FLA and SWF files. • You can add an existing file to a Flash Project. Each file can be added to a particular Flash Project only once. Files can be organized in nested folders. • A Flash Project is an XML file with the file extension .flp–for example, myProject.flp. The XML file references all the document files contained in the Flash Project. • A Flash Project can contain another Flash Project (FLP file). • Changes that you make to a project are updated to the FLP file immediately, so the file is always current. (You do not need to do a Save File operation.) • You can create a Flash Project in the Flash MX Professional 2004 authoring environment, or you can create the XML file for a Flash Project in an external application [*Flash MX 2004 Using Flash*, pp. 295 – 296] You can create a publish profile that saves a configuration of publish settings. You can then export the publish profile for use in other documents, or for use by others. Conversely, you can import publish profiles for use in your document. [...]

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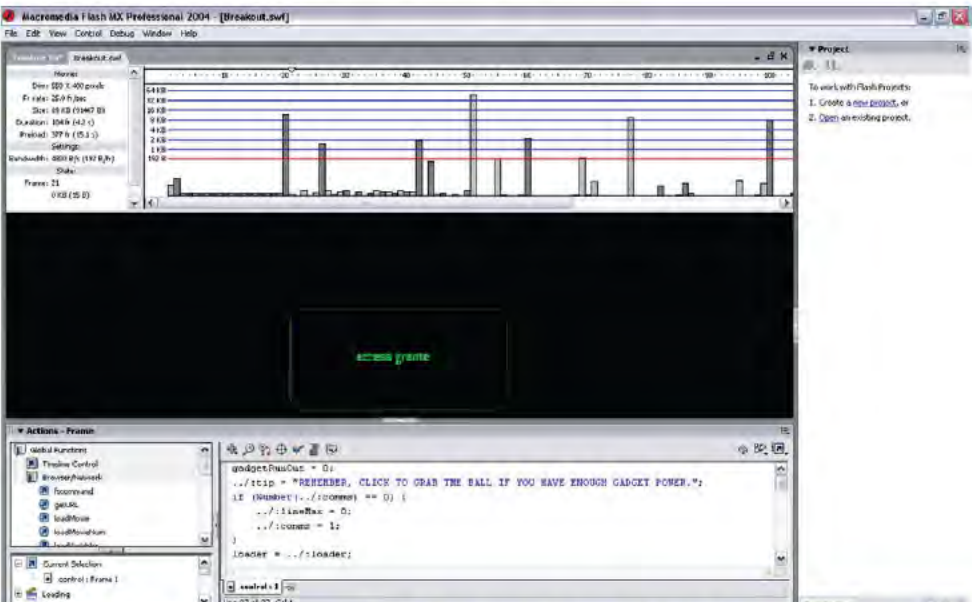| '579 Claim 29	Reference/Combination
	Publish profiles, like default publish settings, are saved at the document rather than application level. To use a publish profile in another document, you export it, then import it into the other file. […] To modify a publish profile, you simply change the settings in the Publish Settings dialog box. For example, the Flash Lite 1.1 characteristic is stored on a file. [*Flash MX Professional 2004 Flash Lite 1.1 Authoring Guidelines*, p. 7] To create content for mobile phones, you must have the following items on your computer: • The latest version of Macromedia Flash MX Professional 2004 (7.0.1) • The new FlashLite1_1.dll (FlashLite1_1.dmg on the Mac) file for testing Flash applications in the Flash Lite 1.1 authoring environment • The new FlashLite1_1.xml file for publishing Flash Lite 1.1 SWF files • The DevicesMsg.cfg configuration file for customizing the features that are supported in Flash Lite 1.1. For example, Flash MX Professional 2004 is software comprising files because it is installed on the user's computer. [*Flash MX 2004 Using Flash*, p. 178] You can install the FLV Export plug-in after installation of Flash MX Professional 2004 is complete. [*Flash MX 2004 Getting Started with Flash*, p. 16] Installing and activating Flash [¶] Installing Flash is an automated process. After installation, you can choose to run the 30-day trial mode of Flash, or you can choose to activate either Flash MX 2004 or Flash MX 2004 Professional. Both editions of Flash must be activated over the Internet or phone prior to use, and you need your serial number to activate either edition of Flash unless you want to select trial mode. Windows 98 SE users must have Microsoft Internet Explorer 5.1 or later in order to activate over the Internet. [¶] Note:

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	Installing Macromedia Flash MX 2004 and Macromedia Flash MX Professional 2004 does not overwrite earlier Flash versions, such as Macromedia Flash MX, that you might have installed. [¶]
	To install Flash: [¶] 1. Close any running versions of Flash before installing. [¶] 2. Do one of the following to start the installation process: ■ (Windows) If you have a CD, insert it in your CD drive. A Flash movie clip plays that guides you through installation choices. Note: You can also run Install Flash MX 2004.exe to start the Flash movie clip, if necessary. ■ (Macintosh) If you have a CD, insert it in your CD drive and double-click the Installer icon. ■ If you have downloaded Flash from the Internet, double-click FlashMX2004Installer.exe (Windows), or double-click the Installer icon (Macintosh) and follow the onscreen instructions. [¶] 3. When installation is complete, follow the instructions to select the 30-day trial period, or enter your serial number and activate Flash.
	[*Flash MX Professional 2004 Flash Lite 1.1 Authoring Guidelines*, pp. 7–8] To create content for mobile phones, you must have the following items on your computer: [¶] • The latest version of Macromedia Flash MX Professional 2004 (7.0.1) [¶] • The new FlashLite1_1.dll (FlashLite1_1.dmg on the Mac) file for testing Flash applications in the Flash Lite 1.1 authoring environment [¶] • The new FlashLite1_1.xml file for publishing Flash Lite 1.1 SWF files [¶] • The DevicesMsg.cfg configuration file for customizing the features that are supported in Flash Lite 1.1. [¶]
	Installing the Flash MX Professional 2004 7.0.1 update [¶] To export Flash Lite 1.1 contents for mobile phones correctly, you need to have the latest version of Macromedia Flash MX Professional 2004 (7.0.1). You can download the updater program from the Macromedia website: www.macromedia.com/support/flash/downloads.html. [¶]
	Installing the FlashLite1_1.dll (FlashLite1_1.dmg on the Mac) file [¶] The FlashLite1_1.dll (FlashLite1_1 on the Mac) file is part of the Flash Lite 1.1 Authoring Updater. This DLL is to be used to test content when you select Test Movie to validate your content. This new DLL is used when Flash Lite 1.1 is selected as the Flash version to publish to (using the publish setting interface). […]
	The Flash Lite 1.1 Test Movie command allows users to customize the features that are supported in Flash Player. From the Flash Lite 1.1 Authoring Updater, copy the DeviceMsg.cfg configuration file […]

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	For example, Flash MX Professional 2004 is software. See disclosures for claim limitation 15[a] (hereby incorporated by reference). In software, at least one of the one or more characteristics are stored on at least one of a file, a database and on a computer-readable media that is accessible via the internet. To the extent this limitation is not explicitly disclosed by the Flash MX Professional 2004 system, it is inherent or would have been obvious to a POSA from the teachings of the Flash MX Professional 2004 system, the knowledge of a POSA, and/or one or more of the references identified in JPMC's Invalidity Contentions.

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'579 Claim 33	Reference/Combination
33[a] The medium of claim 15, wherein the instructions allow scripts to be created that simulate actions capable of being performed by the mobile device.	The Flash MX Professional 2004 system discloses this limitation. Screenshot of Flash MX Professional 2004 Bandwidth Profiler interface with "Actions – Frame" window enabling creating ActionScript scripts within the Flash application. For example, the manual discloses that Flash MX Professional 2004 supports creating ActionScript (scripts). [*Flash MX 2004 Using Flash*, p. 23]

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	Working with scenes [¶] To organize a document thematically, you can use scenes. For example, you might use separate scenes for an introduction, a loading message, and credits. [¶] Note: You cannot use scenes in a screen-based document. For information on screens, see Chapter 12, "Working with Screens (Flash Professional Only)," on page 197. [¶] When you publish a Flash document that contains more than one scene, the scenes in the document play back in the order they are listed in the Scene panel in the Flash document. Frames in the document are numbered consecutively through scenes. For example, if a document contains two scenes with ten frames each, the frames in Scene 2 are numbered 11–20. [¶] You can add, delete, duplicate, rename, and change the order of scenes. [¶] To stop or pause a document after each scene, or to let users navigate the document in a nonlinear fashion, you use actions. See "ActionScript Basics" in ActionScript Reference Guide Help. [¶] To display the Scene panel: • Select Window > Design Panels > Scene. [¶] To view a particular scene: • Select View > Go To and then select the name of the scene from the submenu. [¶] To add a scene, do one of the following: • Click the Add Scene button in the Scene panel. • Select Insert > Scene. ActionScript adds complex interactivity, playback control, and data display, and can store and retrieve information, and thereby can simulate actions capable of being performed by the mobile device. ActionScript also has networking capabilities, such as by calling loadMovie and getUrl, which also simulate actions capable of being performed by the mobile device.

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	[*Flash MX 2004 Using Flash*, p. 18] ActionScript is the Flash scripting language that enables you to add complex interactivity, playback control, and data display to a Flash document. You can add ActionScript within the Flash authoring environment using the Actions panel, or create external ActionScript files using an external editor. [¶] You don't need to understand every ActionScript element to begin scripting; if you have a clear goal, you can start building scripts with simple actions. You can incorporate new elements of the language as you learn them to accomplish more complicated tasks. [¶] Like other scripting languages, ActionScript follows its own rules of syntax, reserves keywords, provides operators, and allows you to use variables to store and retrieve information. ActionScript includes built-in objects and functions and allows you to create your own objects and functions. For more information on ActionScript, see "ActionScript Basics" in ActionScript Reference Guide Help. [*Flash MX 2004 Using Flash*, p. 38] When external SWF files, GIF and XML files, and variables are streamed into a player by using ActionScript calls such as loadMovie and getUrl, the data flows at the rate set for streaming. The stream rate for the main SWF file is reduced based on the reduction of bandwidth caused by the additional data requests. As another example, the Bandwidth Profiler can run a scripted simulation of a download, thereby creating a script to simulate actions capable of being performed by the mobile device. [*Flash MX 2004 Using Flash*, pp. 38–39] The Flash Player attempts to meet the frame rate you set; the actual frame rate during playback can vary on different computers. If a document that is downloading reaches a particular frame before the frame's required data has downloaded, the document pauses until the data arrives. [¶] To view downloading performance graphically, you can use the Bandwidth Profiler, which shows how much data is sent for each frame according to the modem speed you specify. The Bandwidth Profiler is divided into

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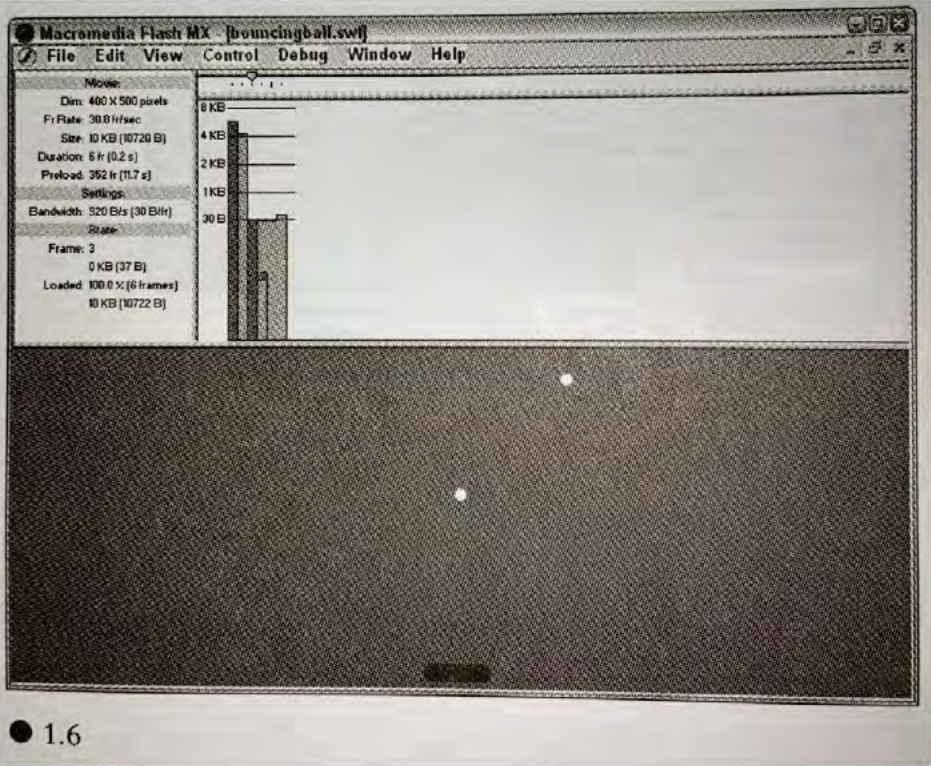| '579 Claim 33	Reference/Combination
	two panes. The left pane shows information about the document, the download settings, the state, and streams, if any are included. The right pane shows information about individual frames in the document. [¶]
	In simulating the downloading speed, Flash uses estimates of typical Internet performance, not the exact modem speed. For example, if you choose to simulate a modem speed of 28.8 Kbps, Flash sets the actual rate to 2.3 Kbps to reflect typical Internet performance. The profiler also compensates for the added compression support for SWF files, which reduces the file size and improves streaming performance. [¶]
	When external SWF files, GIF and XML files, and variables are streamed into a player by using ActionScript calls such as loadMovie and getUrl, the data flows at the rate set for streaming. The stream rate for the main SWF file is reduced based on the reduction of bandwidth caused by the additional data requests. It's helpful to test your document at each speed you intend to support, and on each computer you intend to support. This helps you ensure that the document doesn't overburden the slowest connection and computer it is designed for. [¶]
	You can also generate a report of frames that are slowing playback, and then optimize or eliminate some of the content in those frames. See "Optimizing Flash documents" on page 36. [¶]
	To change the settings for the SWF file created using the Test Movie and Test Scene commands, use File > Publish Settings. See "Publishing Flash documents" on page 281. [¶]
	To test download performance: [¶] Do one of the following: [¶] Select Control > Test Scene or Control > Test Movie. [¶] If you test a scene or document, Flash publishes the current selection as a SWF file using the settings in the Publish Settings dialog box. (See "Publishing Flash documents" on page 281.) The SWF file opens in a new window and begins playing immediately. [¶] Select File > Open, and select a SWF file. [¶]
	Select View > Download Settings, and select a download speed to determine the streaming rate that Flash simulates: 14.4 Kbps, 28.8 Kbps, 56 Kbps, DSL, T1 or a User Setting. To enter your your own User Setting, select Customize. [¶]
	When viewing the SWF file, select View > Bandwidth Profiler to display a graph of the downloading performance. [¶] The left side of the profiler displays information about the document, its settings, its state,

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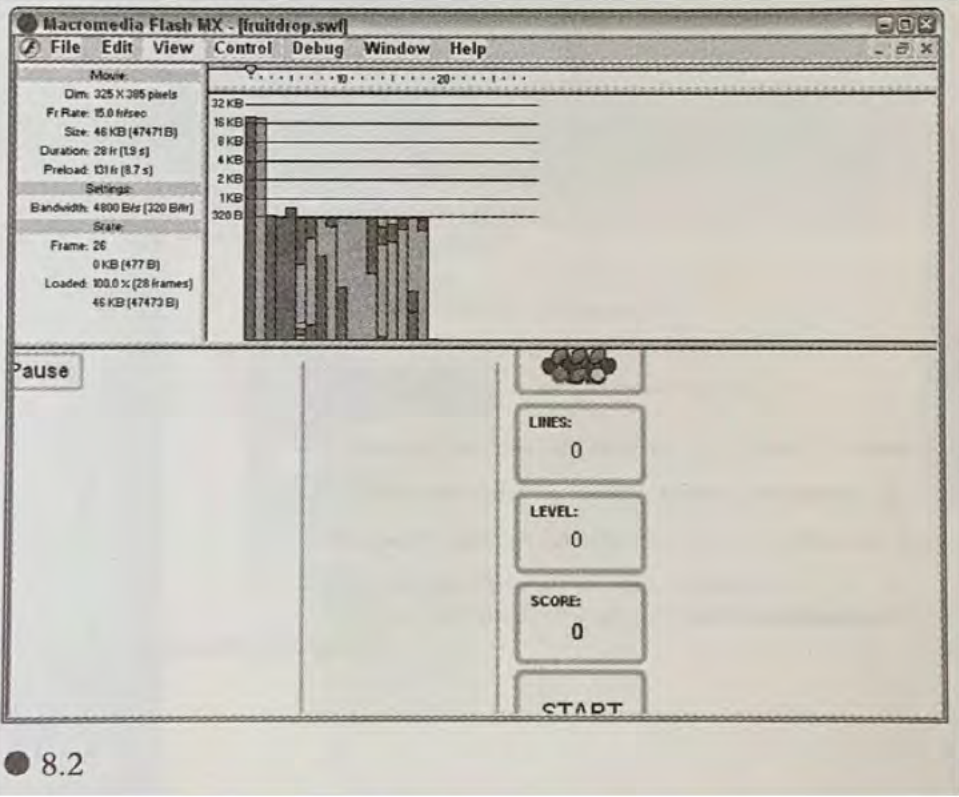| '579 Claim 33	Reference/Combination
	and streams, if any are included in the document. [¶] The right section of the profiler shows the Timeline header and graph. In the graph, each bar represents an individual frame of the document. The size of the bar corresponds to that frame's size in bytes. The red line beneath the Timeline header indicates whether a given frame streams in real time with the current modem speed set in the Control menu. If a bar extends above the red line, the document must wait for that frame to load. [¶] Select View > Simulate Download to turn streaming off or on. [¶] If you turn streaming off, the document starts over without simulating a web connection. [¶] Click a bar on the graph to display settings for the corresponding frame in the left window and stop the document. [¶] If necessary, adjust the view of the graph: [¶] Select View > Streaming Graph to show which frames cause pauses. This default view displays alternating light and dark gray blocks representing each frame. The side of each block indicates its relative byte size. The first frame stores a symbol's contents, so it is often larger than other frames. [¶] Select View > Frame by Frame Graph to display the size of each frame. This view helps you see which frames contribute to streaming delays. If any frame block extends above the red line in the graph, the Flash Player halts playback until the entire frame downloads. [¶] Close the test window to return to the normal authoring environment. [¶] Once you've set up a test environment incorporating the Bandwidth Profiler, you can open any SWF file directly in test mode. The file opens in a Flash Player window, using the Bandwidth Profiler and other selected viewing options. [¶] For more information on debugging your documents, see "Writing and Debugging Scripts" in ActionScript Reference Guide Help. [¶] To generate a report listing the amount of data in the final Flash Player file: [¶] Select File > Publish Settings and click the Flash tab. [¶] Select Generate Size Report. [¶] Click Publish. [¶] Flash generates a text file with the extension .txt. (If the document file is myMovie.fla, the text file is myMovie Report.txt.) The report lists the size of each frame, shape, text, sound, video and ActionScript script by frame.

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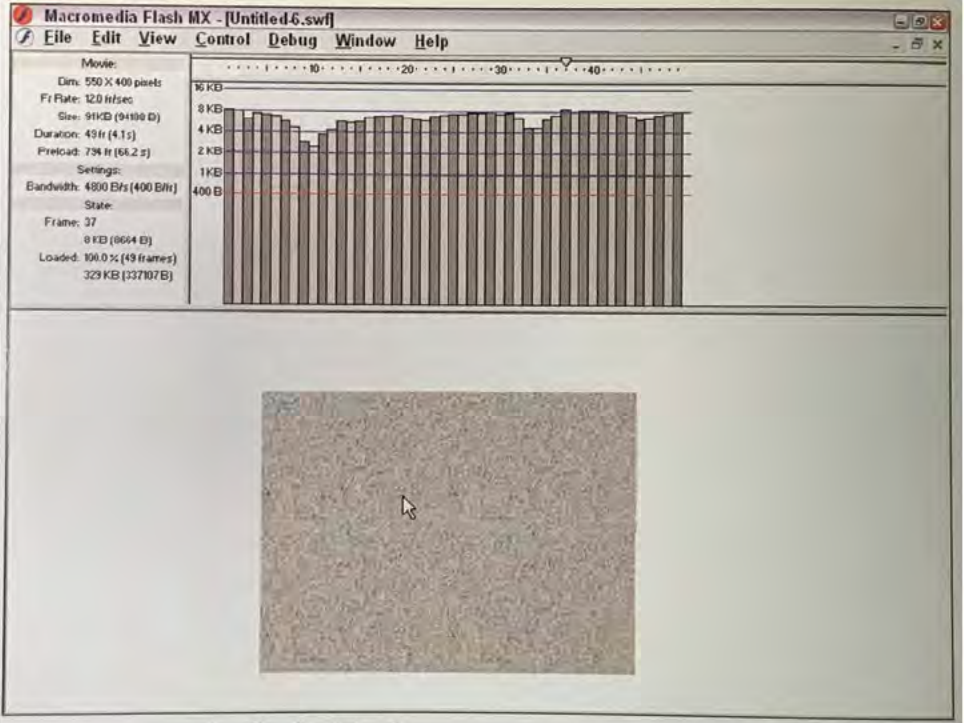| '579 Claim 33	Reference/Combination
	[*Flash MX 2004 Using Flash*, p. 390] In addition, Flash files are compact, making them perfect for wireless carrier networks, where transfer rates range between 9.6 and 60 kilobytes per second (Kbps). Mobile devices, unlike desktop computers, have limited storage capability, so the small footprint of Flash is ideal. David discloses, via screenshots, the appearance of the Bandwidth Profiler. [David, p. 7]

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	[David, p. 98]

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	● 8.2 [David, #18 of 32 unnumbered pages between pages numbered 192 and 193]

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	  To the extent this limitation is not explicitly disclosed by the Flash MX Professional 2004 system, it is inherent or would have been obvious to a POSA from the teachings of the Flash MX Professional 2004 system, the knowledge of a POSA, and/or one or more of the references identified in JPMC's Invalidity Contentions.

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'579 Claim 34	Reference/Combination
34[a] The medium of claim 33, wherein the scripts can be modified or recorded.	The Flash MX Professional 2004 system discloses this limitation. See claim limitation 33[a] (hereby incorporated by reference). For example, the manual discloses that ActionScript scripts can be modified. To the extent this limitation is not explicitly disclosed by the Flash MX Professional 2004 system, it is inherent or would have been obvious to a POSA from the teachings of the Flash MX Professional 2004 system, the knowledge of a POSA, and/or one or more of the references identified in JPMC's Invalidity Contentions.